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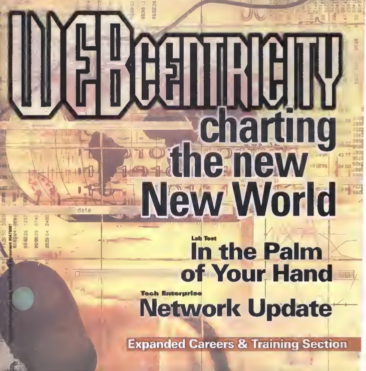

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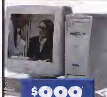

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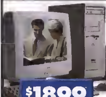

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FROM THE EDITOR

Approaching the new New World

There's an ad that runs on TV where someone says "the Web has changed everything." Maybe that's overstating the influence of the World Wide Web, but there's no denying that it has profoundly altered the way we think—about business, interpersonal communication, entertainment and a broad range of other day-to-day activities. But as eye-opening as the past couple of years have been, what we're experiencing now is merely the dawn of the new New World of technology.

For the past decade and a half, personal computers were on the leading edge of technology's advance, at least in terms of the potential it gave to us as individuals to extend our brain power. By implication, computers always figured largely in discussions about the future of culture and society.

However, the PC revolution is over: the technology gestalt has changed. The personal computer has receded into background, and what looms is a global network of connected personal computers—the Internet, of which the Web is the dominant, multimedia incarnation.

The PC won't disappear and will remain an important device. However, it will be joined by a broad range of devices with data processing and storage capabilities built in. Of course this is no revelation, but we're reaching a point where the predictions are actually bearing fruit in the form of convergence products we can actually buy. For example, today in some provinces, you can buy a Nortel Vista 450 screenphone that includes an LCD screen and a wireless keyboard. The service package that comes with the Vista includes an online phone directory, the ability to receive and send email from the screenphone, and other services, like weather reports, stock quotes and online bill payments.

The PC industry knows its traditional turf is shifting, and the various players are trying to remake themselves to serve tomorrow's markets. I recently attended an event where a guest speaker from Intel said the Internet is as important to Intel's future as silicon was to Intel's past.

Intel has been quietly buying up a few billion dollars worth of companies specializing in networking, part of its strategy to be the premiere supplier of critical components for the Internet revolution, just as it was a supplier of critical components for the PC revolution.

Symantec is singing a similar refrain, and earlier this fall, gave *TCP* a presentation on its new "Internet-centric" strategy. Talking about the company's informal slogan, "serving the connected world," Chris Monnette, general manager for Symantec Canada described how the Web is now a very big deal. It is affecting not only the company's product development, but also its bedrock business practices, from the way it communicates with customers to the movement of products from factory to consumer.

Likewise, 3Com Canada's recently appointed president, Dan Servos, talked to *TCP* about three "pivotal" trends influencing the company's business planning: convergence of communications on a single medium, the Internet; the shift to a knowledge-based economy; and increased mobility of the population. Servos talked about 3Com's "user-centric" strategy, the focus of which is to help individuals access the information they need right now, whether they're at home, at work or anywhere else.

Surf globally, live locally

Connecting people to the information they need is an interesting principle, but highly variable in its specific incarnations. In some cases, the value of a move to ever larger information networks is obvious. When library card catalogues went online via dumb terminals, it allowed us to see if a particular book was available, without having to physically go to the stacks. When public libraries began to offer a dial-in service, that was another big step in convenience—you didn't even have to leave the house to check on a particular book. Moving that service onto the Internet has allowed us to search libraries in other cities. Someone I know actually searched the card catalogue of a library in Dublin via the Internet, while doing genealogy research.

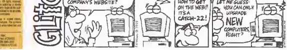
Sometimes, though, the "go anywhere to find anything" model starts to get a bit iffy. Do people in Vancouver really care that they can buy peaches over the Internet from a grocer in Montreal? Probably not, and this is one of the current challenges of people who want to set up shop on the Internet.

The Internet has huge reach, and one of the phrases you hear from Internet marketers is "capturing eyeballs." This is very much a model borrowed from TV and how it determines its rates for advertising. It's the reason why one minute of advertising during the Super Bowl costs so much—because the Super Bowl delivers a huge audience. Print advertising also works this way: bigger distributions usually mean higher ad rates.

However, with traditional media, a division between regional and transregional content has developed. You don't have to be a genius to realize that if your store is in one locale, it's not going to be very effective to run ads for your weekly specials in a daily newspaper three provinces away.

Yet when you look at all the hype surrounding e-commerce and e-retailing, the big message you hear is about all the millions of eyeballs that will visit your online store. What the e-commerce industry needs to work through is how to make a comparable regional/transregional distinction that makes sense for this new medium. Information can be consumed virtually, and virtually anywhere, but real goods still need to be consumed in real time and space.

Enjoy the issue.
David Tanaka, Editor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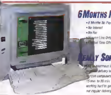

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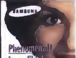
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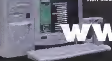

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Mail order blues

I would like to warn potential customers of possible problems that they may encounter if they decide to buy a computer by mail or out of the province in which they reside.

Last year, I bought a laptop computer after seeing an advertisement in a national newspaper. Since the computer company was based in New Brunswick and I lived in Nova Scotia, I did not think that I would have a problem with the warranty. They guaranteed their product. Unfortunately, I immediately had problems with the computer, returned it within the 30-day hassle-free warranty period and waited for my refund. I waited over two months and was only refunded part of my money.

After many communications with the company I decided to take them to Small Claims Court in Nova Scotia as there was nothing else I could do. The judge ruled that the computer company should pay me the balance owing, but the company still refused to pay, stating that I must make the claim in the New Brunswick Small Claims Court. I felt so powerless. I still have not received the balance owed to me despite several attempts to negotiate with the company.

So I would like to warn people who are thinking about buying a computer by mail or courier service. Beware! Call your Better Business Bureau to see if there have been complaints filed against this company. Think about what may happen if you have problems with your computer. If you are only given a telephone to call if something goes wrong, beware. The computers advertised by mail may be cheaper than the one at your local dealer but in the long run you are spending your time trying to get service. You may even end up not being refunded the money you paid for a faulty computer.

If the company is in New Brunswick or Ontario, for example, and you live in a different province, the laws may be different if you find yourself going to court for a refund. Also, you will have to file in that province. Because of this, it seems that the companies can do what ever they like and it is the customer in the end who suffers. Make sure you know where the company office is located.

With the computer era changing the way we do business, we must be extra cautious before we make a purchase by computer or by mail. In the event of a dispute we must be sure that the laws in our province will protect us against shoddy businesses. Before you buy, know your rights and know the track record of the company with whom you want to do business.

Bernita Butler

DT replies. This is sage advice. Historically, mail order has been less popular in Canada than in the U.S., we seem to prefer the comfort of a bricks-and-mortar location we can physically visit.

When it comes to computers, this may be changing. Dell, for example, which sells computers exclusively by mail order, is one of the top five PC vendors in Canada. Your individual case notwithstanding, the satisfaction of the transaction seems to be tied more to the reputation and customer satisfaction history of the company than to how it gets its products from its place to yours.

Video editing

I want to buy a computer for video editing, but I'm not sure what to buy. Different people have said so many different things to me about what I need and don't need. I do know computers, but the only thing I'm sure of is that I'll need lots of hard disk space and lots of RAM. Is a SCSI drive really necessary? Do you have any recommendations on video cards etc.? I would like to buy a computer, but I don't want to spend huge amounts of money. What is a reasonable amount to spend on a box?

Randy Dueck

GB replies. SCSI is not absolutely necessary, but it is, for some tasks, better. An IDE array, such as the Medea RAID, is the cheapest way to get sustained drive performance of up to 27 MB per second.

The least expensive "high quality" way to go is with a digital video camera with onboard FireWire and a PC with a FireWire adapter. FireWire DV input/output does not require an expensive SCSI drive, and there are now a number of inexpensive packages that can edit the video and, with the right "codecs" and video card, display it full-screen on a computer, send it to a VCR or CD, or of course, dump it back via FireWire to an external device.

Note, however, that the tape transport mechanisms on that little video camcorder will wear out quickly if you use it as an editing deck. Bill Foster, who regularly demonstrates digital video solutions on behalf of Apple Computer, advises

Continued on page 14

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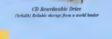

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WHAT'S NEW

Savings 'just a click away'

A Vancouver-based company, SUMmedia.com has unveiled a new Internet service for local retail businesses called SavingUMoney.com

According to SUMmedia.com president John Veltheer about 90 percent of all retail business transactions are made by consumers within a few miles of where they live. Yet most local businesses have so far felt left out of the Internet-based e-commerce boom.

Veltheer says, "until recently there were thousands of smaller retail and service organizations that couldn't afford or didn't have the technical expertise to take advantage of the booming eCommerce market. SavingUMoney.com not only takes advantage of the electronic coupon revolution. It provides a much needed gateway to eCommerce for forward thinking small businesses. We're excited to be able to help these companies enjoy their piece of the ever-growing e-commerce pie."

The new venture involves creating online electronic coupon sites for businesses in major Canadian cities and larger towns. Web surfers can search online for companies offering goods and services in their local area (for example, restaurants, bookstores and hardware stores). Participating retailers have Web sites, created by SUMmedia.com staff, that offer discount coupons to potential customers. The coupons can be downloaded and printed out by would-be customers, and presented to the participating retailer at the time of purchase.

In concept, the SavingUMoney.com program is similar to some of the community Web pages that have popped up in many Canadian centres in the last few years. What differentiates it, however, is the scale of the operation, and the resources that are being committed in the effort to make SavingUMoney.com an international standard in e-commerce access for small business.

So far, the company has raised millions of dollars in venture capital, recruited thousands of participating businesses, and rolled out its service in Vancouver, Kelowna, Toronto, and shortly in Edmonton and Calgary.

Unlike local Web business promotion sites, SUMmedia.com has state-of-the-art technology which allows it to offer basic Web presence and coupon service for under $40 a month. According to Veltheer, the intent is to make the service so inexpensive and low risk that even the smallest businesses "find it impossible to say no."

With a basic subscription, a company gets a listing on the SavingUMoney.com site search page, its own individual Web page with downloadable custom designed coupon, and access to site-use statistics.

SUMmedia.com claims that with the paper discount coupon business as a multi-billion dollar role model, the online version has excellent prospects to become a global catalyst for encouraging small businesses to prosper from the Internet boom.—JE

SavingUMoney.com http://www.savingumoney.com

Ericsson intros 'smallest' cell phone

STOCKHOLM, Sweden (NB)—Ericsson has taken the wraps off the world's smallest cellphone, the T28 World, which supports GSM 900 and 1,900 frequencies.

The phone, which was launched at the PCS '99 show in New Orleans this fall, can be used on PCS networks in North America, as well as on approximately 200 other networks

Continued on page 14

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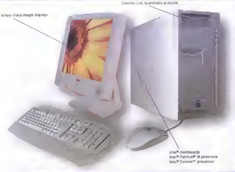
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AZURA

Continued from page **12**

around the world that support the GSM 900 system. The handset is 6.35x3 3 cm (2.5x1.3 in.) and is just 1 cm (0 4 in) thick. It weighs in at just 83 g (2.9 oz)

Despite its size, the T28 World has a full graphic display and an active flip with a release button on the side of the phone To answer a call users press the release button and the flip mouthpiece opens up. To end a

call, the flip is pushed back and the call stops.

Other options on the handset include a vibrating (quiet) alert, as well as an automatic time zone update facility This allows the phone to update itself based on network time, as the user moves between time zones and/or countries

The T28 World supports GSM Phase 2+, the latest implementation of the GSM standard, allowing advanced interaction between the handset and the network to take place

Ericsson says that, with the battery provided, minimum talk time is one hour and 33 minutes maximum talk time three hours and 35 minutes Minimum standby time is 32 hours while the maximum is 50 hours. With additional batteries, maximum talk time is 10 hours and 27 minutes and maximum standby time is 150 hours

The firm isn t saying how much the handset will cost, as this depends on how much contract subsidy the network offers.

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Bookselling has been one of the hottest sectors of consumer retailing on the Web, with

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Letters

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users to invest in a dedicated editing deck in addition to a camera

Of course, there's the Mac versus PC question too One of those new AGP-equipped Apple G4s with the external and internal FireWire connectors would give you quite a bit of power at a fairly reasonable price You d also need Final Cut Pro (FCP) or other compatible software. Note, however, that FCP is currently not "real-time," as are some of its PC-based competitors, such as those supported by Adobe Premiere RT or the real-time version of In Sync's highly regarded Speed Razor

If a low-end solution might do, the Matrox Marvel G200-TV or ATI All in Wonder 128 are worth looking at I have had good results (full-screen, 30 frames per second not too much image degradation from compression artifacts) from both of these low-cost solutions—with the understanding that I am not trying to obtain "broadcast quality" The Matrox Marvel was my low-cost pick for most of last year, and I'm still impressed with its full-screen Motion JPEG capture and playback quality But now I think the ATI product (or possibly an add-on product called the Video Wonder, also from ATI) is the best bet at the low end It yields comparable quality, with less onerous disk space requirements

A 450 MHz Pentium III (or Celeron, if you are especially budget challenged) powered PC with a decent 7,200 RPM drive (perhaps the 9 1 GB Quantum KA with a Promise UDMA/66 controller) and 128 MB of RAM would be a speedy and suitable platform for a video capture and editing solution based on one of these cards I have had good results from even less studly configurations.

You should also try to find a video specialist who can demonstrate a system that does exactly what you want at a price you are comfortable with When you have questions there's much to be said for talking to a person who uses the technology every day ❑

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The new New World of technology

The Web changes everything: a look at how and why

By Jacques Surveyer

I have been doing a series of presentations about the Web to business audiences and a number of the slides I use quote such technology, business and world leaders as IBM chief executive Lou Gerstner, Oracle founder and head Larry Ellison, Microsoft chairman Bill Gates, U.K. Prime Minister Tony Blair, and Daimler-Chrysler boss Robert Eaton. They are all saying the same thing. the Internet changes everything

For example Bill Gates says, "Business is going to change more in the next 10 years than it has in the last 50." Perhaps this is because Gates and Microsoft got caught underestimating the impact of the Internet, and have had to scramble to catch up.

Likewise car makers are scrambling to help shape rather than react to the impact that Web sites such as AutoBytel and CarPoint are having *on* car sales. (Reports say that in 1999, 30 percent of U.S. car buyers are shopping for vehicles online, and that number is expected to jump to over 50 percent in 2000.)

But Gates and his business cohorts should not have been surprised. *Scientific American* (October 1988) *IEEE Spectrum* (1990 and again in 1995) and other reputable technical magazines devoted complete issues to the topic of networks, telecommunications and the rapidly evolving Web

And to be fair, these leaders were not blind to the Web and its opportunities and challenges, they just underestimated the scope and speed of the changes.

So, why is this Web phenomenon happening and how does the Web change everything in ways large and small?

The PC revolution ends

Four years ago *PC World* magazine devoted an issue to the idea that PCs were becoming pervasive in all walks of life. The evidence of the PC's presence and influence was enormous:

- In business, PCs are on almost every desk—usually linked by local area networks (LANs)—in every plant, and even whisking around on delivery vehicles.
- In government, PC use mirrors that of the business environment PCs are used at every level and in every aspect of the bureaucracy, from polling to prison monitors
- In education, PC use has gone beyond labs and computer classes into broader use across university campuses (with more institutions requiring computers for every new student) and into dormitories. In high schools, one mark of excellence has become the availability of computers in every classroom
- In the arts, PCs are being used to create wonderful pieces of music, images animations, and sculptures, and are also being incorporated in the performing arts such as dance.
- In science, PCs, as much as supercomputers, have made it possible for even the humblest of graduate students to store, analyze, model, and do simulations or experiments to accelerate the rate of discovery in every nook and scientific cranny
- In sports, PCs are being used to run JumboTron stadium displays, to visualize and analyze the intricate motions of a golf swing, and to create fantasy sports leagues, franchises and super-realistic games.

When this *PC World* feature ran, there was a convincing argument for the central place of the PC in everyday life. But like the business leaders already cited, the magazine didn't take into account the rapid advance of the Internet.

How the Web is changing the PC

Today, for around $1 000, you can buy a PC with a 300 MHz Pentium II processor, 3 GB hard disk, 56Kbps modem, monitor, keyboard, mouse, CD-ROM drive, and sound card. Fifteen years ago the equivalent of this type of computing and communicating power would have cost between $500,000 and a $1 million. Just five years hence it will cost between $75 and $300.

Two of the basic reasons for the continuing rapid decline in PC prices are:

- Computers are self-perfecting. They can be and are used quite effectively to speed up creation and delivery of the next generation of computers
- There has been nearly unlimited demand for the next generation of computing power for business and home use, in the arts and every field of endeavor.

Today, we are approaching a threshold of 50 percent penetration of PCs in the home (recent studies indicate Canada is just below the 50 percent mark, while the U.S. has hit it) But over the past two or three years, PC makers have become increasingly worried that computing power may be starting to get ahead of the consumer demand and need. Demand is still growing, but not at the rate it did in the heyday of PCs

So why the downturn in demand in the home despite steeply declining prices? Several arguments have been advanced to explain this phenomenon. First, computers are still too darn difficult to use. Despite color graphic user interfaces (GUIs) and the move to plug and play devices PCs are still finicky and hard to use. Such conveniences as touch screens pen input, voice activation, adaptive operating systems (OS) interfaces have not made the Microsoft cut for OS desktops. And since Microsoft has effectively owned the desktop since the late '80s part of the blame for slow acceptance into households lies at 1 Microsoft Way

But there are other factors. Many potential home users have access to more than enough computing technology at work school or at the public library, so why buy a machine that will be worth 25 percent of its purchase value in two years?

And maybe it's also the case that everyone who thought they needed a computer now has one. After all, the need to work with a word processor or spreadsheet, or the desire to keep one's banking records on a computer is by no means universal What computing really needed was another killer app to get PCs into 100 percent of the homes. Enter the Internet.

But, ironically, how the last 50 percent of homes get communication and computing power is still up for grabs. There's no denying that we, as consumers, will want some kind of device to compute and surf with but that device may not be a PC as it's been defined over the past two decades. By 2004, a traditional PC will cost between $75 and $300—with $200 being our best guess.

The PC won't suddenly disappear, but consider that the new games consoles from Sega, Sony and Nintendo pack three to four times the computing power of today's PCs, plus they have better sound and graphics, and can connect to the Internet Likewise, the telephone companies are working overtime to cram the right combo of computing and communication power into their "telephone handsets." Cable and TV vendors are also working to combine TV, computing and Internet into WebTV and other set top-box offerings

This trend to get into the home by combining computing, telecommunications and/or television features has been dubbed "convergence" by the business press Who will win the last mile into the home has been the subject of much conjecture and has been the source of rapid restructuring of the busi-

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The new New World of technology

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nesses involved We are in no better position to speculate who will win but we agree with the experts—the brass ring is up for grabs.

Internet communication a Killer App

I have some from friends who just bought their first home computer. The husband, Jose is from Argentina, and the wife, Mai, is from Hong Kong. Both are professionals. In the past, whenever they needed to use a computer—to run Cantax, do word processing, or whatever—Jose brought home his business laptop But now they have purchased a $1,000 PC with a modem and say it has paid for itself in less then two months.

They bought a PC in order to communicate more cheaply Previously, they were spending $400 to $600 a month in long-distance calls to family, friends and new business associates overseas. They now use Internet Phone from VocalTec to chat with family in Argentina and Hong Kong, and they talk to their daughters in Europe almost daily

Mai who will be retiring from her job at the end of this year has set up her own import-export business with key suppliers in Hong Kong and Singapore. Using Internet Phone chat messaging or email, she can chat with suppliers and customers. She says her mail and delivery expenses have declined rather than increasing as she feared. The cost has been the price of the PC, plus a $25 monthly Internet connection That fee will more than double to $55 month when they start to use a high speed cable connection, but at the same time their speed of communication will increase tenfold

Jose and Mai are hardly alone. My mailman and badminton buddy, Jimmy, finally got a second-hand PC and connected to the Internet He has used it to buy a car online, and to play Bridge and Hearts with some old and new buddies

He and Mai and Jose are part of the 25 million to 30 million North Americans who have and will sign onto the Web for the first time this year Readers should know, however, that past predictions have been too cautious—especially for North America, where analysts have underestimated Web use by as much as 20 to 40 percent. It looks like communication—Internet voice, e-telephone, video, email, e-chatting—is the killer app that will bring both computing and network communications into family homes worldwide.

Why? First, the price is right $200 to $300 for a second hand PC and $10 to $25 per month for the Internet connection And by next year you may be able to buy a new network appliance for that price

Second, Internet access is getting easier. Part of the reason for the recent sales surges of Dell, Gateway and Apple computers is that these vendors make it dead simple to get connected to and use the Net. In the future even the simpler Internet appliances will provide some PC functionality in addition to a great Web experience

Third, a whole range of activities—selling goodies at auctions, finding a job doing taxes, buying stocks, creating and sending greeting cards communicating with distant friends playing games alone or with others, and doing research—are enhanced and made much more rewarding with a PC and an Internet connection.

How things change to free

In their book *Information Rules*, Carl Shapiro and Hal Varian describe the economics of the Web and information services They note that most information and services have a high initial or setup cost and very low marginal costs—expenses associated with production (or in this case reproduction and communication) Over the long term all prices are driven towards the marginal costs, and in most cases on the Web the marginal costs are near zero.

Accelerating this trend is the "dominant player" effect. The dominant or largest player on the Web tends to have the lowest costs because of economies of scale. Thus, in order to become the dominant player, a number of companies—such as Netscape, Microsoft, E*Trade, *The New York Times*—have priced a number of their Internet products and services for free Indeed there is a small but quite influential set of groups, including the World Wide Web Consortium (W3C), the Open Source Foundation, and others, who believe information and basic software should always be free on the Web

Finally and significantly, the U.S. Government (followed by most other governments) has declared a moratorium on taxes for goods and services sold over the Net The argument against taxes on the Net

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The new New World of technology

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has been threefold.

- Mechanisms (some form of cybercash or digital wallet) for charging and collecting odd lot or small amounts are still being developed.
- Just as the servers for an online company can be located in two different provinces or states, or in even in two different countries, the warehouses for fulfillment and distribution can be located nearly anywhere. Therefore deciding which jurisdiction gets to tax a Web purchase is anything but clear.
- Cumbersome taxes and tax collection might very well nip the slowly emerging e-business market.

The net result is that "free"-dom reigns on the Web. This doesn't mean that goods in particular and all services are free on the Web, but most sites and the information they offer are free to browse. And the "free" ethic dominates Web thinking. In the meantime both government and the business community have managed to put their own brand on the Net and it is called e-business.

E-business

E-business can be broken up into two parts: e-commerce, which represents direct sales and services to consumers; and B2B (business to business), which represents direct electronic transactions between two businesses or between government and business.

In five years 20 percent of business is expected to be fall into the category of e-business. Already the stock market valuations of e-commerce players such as Amazon, AOL, E*Trade, eBay, Nortel, and Yahoo have shot up by as much as 50 to 300 percent since December 1998.

The match that ignited this stock run-up was the report of sales by online vendors during the '98 Christmas season, which were nearly quadruple the value of online purchases for the same period in '97. Consumers seemed to be finally shrugging off concerns about the security of making payments online.

The trend has continued through 1999 to the extent that e-commerce forecasters are predicting a 200 to 300 percent increase in online sales leading up to Christmas this year. The e-commerce side of e-business has taken off.

Savvy e-business players, like American Express, Bell Canada, Boeing, IBM, Intel, and Shell Oil, knew it was only a matter of time. These companies have been prepared for some time, and already deeply committed to B2B transactions. IBM, for example, did $14 billion worth of direct Internet-based procurements from suppliers in 1998, which saved the company close to $300 million, and increased customer and supplier satisfaction ratings.

Likewise, Intel has seen direct Web orders increase by 100 percent to more than $1.2 billion per month in 1999. This increase in B2B transactions has shaved two percent off Intel's administrative costs.

Increasingly, governments at all levels are taking advantage of Web services. Through various federal, provincial, and municipal government Web sites in Canada, you can now renew a passport, pay taxes, get statistics, and reserve a camp site.

Even political campaigns have gone to the Web in a big way. Political pundits in the U.S. were astonished by the nearly $45 million Texas Governor George W. Bush has raised for his presidential campaign through intensive email campaigns, Web-based solicitations and processing.

For companies, B2B means extending networks back to suppliers through a variety of means including remote entry, firewall extension, and virtual private networks (VPN). Whatever the technology now, more than ever before, the network is becoming the one "organizational computer."

Yet these organizational computers use the same basic Web technologies that you and I use to get onto the Web—TCP/IP protocol, HTTP based servers and HTML Web pages that are viewable through common Web browsers. In fact, because they are simple to learn, easy to use, and have cross-platform network connections, Web browsers like Microsoft Internet Explorer and Netscape Navigator have become the interface of choice for all programming.

Software vendors as diverse as ERP specialists SAP, Peoplesoft, and Oracle, datawarehousing developers Cognos, Hummingbird, and Microsoft, project planning software makers ABTCorp, Primavera, and Scitor; and office software creators Corel, Lotus, and Microsoft, are making their programs capable of reading and writing HTML files. The same software can often even run in a Web browser with nearly all of the features functioning as they would on a PC.

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- Logitech Internet Keyboard, Logitech Mouse Plus
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- 3D Extreme M64 TNT-2 32MB 4X AGP 128bit
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- Creative Labs Sound Blaster Live PCI 256 Value
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PENT III 500MHZ	$2,395	$84/mo

Why Smart Machine ?

All PS systems include:

Smart Machine computer systems are generally cranked up and full of goodies, and this one is no exception. With the newest Pentium III onboard, it zipped through the tests turning in the top score overall. Also armed with great audio and video components and a CD burner on top of the DVD drive, it's a machine well-suited to high-power multimedia and gaming. The inclusion of a pretty good entertainment software bundle also earns points. Overall, another killer system from Smart Machine VIPER MV600 "Computer Paper June-1999"

EDITOR'S CHOICE

Smart Machine has a track record for putting together superior systems, but their 500 Mhz Pentium screamer is particularly impressive. Simply put, this is the system I wanted to keep for myself. First and foremost, inclusion of the stunning Sony Pro Trinitron 19" Display is an incredible bonus. The 14.4GB IBM DeskStar drive, while in this review is one of the best consumer drives on the market. The Panasonic DVD and CD-R drives seal the deal, giving this incredibly powerful workstation the ability to double as a full entertainment center. The unit also comes with a big bundle of productivity applications, games and entertainment software. Editor's Choice "Toronto Computes May-1999"

Viper ZX-2000 Editor's Choice Order # 13075
The excellent, value-priced entry from Smart Machine provides a complete back-to-school system with everything a student needs for just under $1,000. The unit combines good performance with excellent extras, including a high-quality 17-inch monitor and huge 13GB Quantum Fireball hard drive. The inclusion of a DVD-ROM tops it all off, making the unit a good entertainment system, as well. The Smart Machine system is highly recommended as an excellent, all-purpose, entry-level computer. "Toronto Computes Magazine" August 1999.

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The connected life

By Jacques Surveyer

By 2005, 500 million users are expected to be on the Web. Only radio and TV currently have previously garnered such worldwide attention.

You may be excused if you find yourself asking again "What's so cool on the Web that's attracting so many users?" The pundits and experts lump the reasons into four main categories:

- Very rich news information and problem-solving resources
- Novel and cost effective ways to communicate
- Games entertainment and communities dedicated to hobbies and special interests.
- New ways to buy, sell and save.

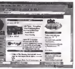
We'll look at examples of each of these categories by visiting actual Web sites

News, info and problem solving

A couple of friends surprised me the other day by saying the CBC was vital to them. I must admit this is the time of the year when the yen for *Hockey Night in Canada* reaches a personal peak, but my Yugoslavian friends were talking about http://www.cbc.ca.

During the Bosnian conflict, and the more recent Kosovo crisis, my friends connected to the CBC site "to get the real news." They especially like the fact that CBC reports live through RealAudio and RealVideo, while using a variety of its own and other news correspondents. They insisted that when you hear from a variety of correspondents from Agence France Press, the BBC, CBS as well as CBC, you feel you are getting a more complete story

Another attraction of the CBC site is that it has been an early pioneer in the use of novel Web technologies Two years ago I was astonished to hear CBC Radio's *As It Happens* on a demo of the then-new RealAudio Player. The CBC site uses some of the latest dynamic page technology to post election results and report on sporting events, like the recent Pan Am games in Winnipeg. Finally, CBC is starting to tap into its vast wealth of news, sports, and entertainment assets by offering audio and video tapes for sale on the Web



The CBC Radio and Television Web site has been a pioneer in its use of new Web technologies

There is no doubt that for news and information, the Web is the place to be The Encyclopedia Brittanica, which in 1990 made over a $1 billion in book sales can now only be purchased on CD ROM and over the Internet. Ditto for other encyclopedias

Then there's trading One key advantage of Web-based stock brokers is that they provide a wealth of financial information including quotes, charts and statistics for free on their sites I go to http://www.yahoo.ca or http://www.etrade.com to get stock quotes.

All the major international news networks are available on the Internet In fact most major arts, science, business, education, and governmental institutions have strong informational presences on the Web. It has come to this bottom line: an organization must not only state its mission but demonstrate its fulfillment on the Web

True, many business and education Webs are really intranets and virtual private networks (VPNs) sitting behind firewalls and available only to authorized users

When I went to Loyola University to look up some data on the Web while in Chicago recently, I should not have been surprised that the whole library catalogue was searchable on the Internet, the latest newspapers magazines and journals also could be browsed in their entirety online; all of the courses and professors had postings of reading lists required reading and assignments on the Web and I couldn't access any of this because I was not an authorized user.

But even intranets and VPNs are becoming more public as the fast paced "need to know" and free information ethic has organizations opening up to broader Web usage.

Part of this trend also comes from the fact that the Web is being used more and more for problem solving. As an example my brother and I both have tinnitus (ringing in our ears) and using the excellent X Portal search software from Toronto developer KCSL, we were able to get a good overview of the nature of the problem and what questions we should be asking our doctors

Continued on page 24

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	VIB801X AT Socket 370	[illegible]
	8735 Socket 370 ATX	$134
Acer AOpen	AX59Pro Socket 7 ATX	$106
	MX59Pro Socket 7 ATX	$129
	AX-6BC Pentium II BX	$161
	AX-6BC Pentium II ZX	[illegible]
	AX-63Pro VIA Pentium II	$151
ASUS	P5A Pen. Super 7 ATX	$141
	P5A-B Pen. Super 7 AT	$129
	P2-99 Pen.II ZX	$134
	P3B-F Pen.II BX	$179
	P2B-S Pen.II BX	$449
ABIT	BX-6 Pentium II BX	$181
	BE-6 Pentium II BX	$206
	BP-6 Dual Pentium II BX	$237
MSI	6163Pro Pentium II BX ATX	$165
	6905 PPGA CPU Converter	$35

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	3D Charger Rage2 4MB AGP	$91
	All-in-wonder Pro 8MB PCI / AGP	$163/157
	Xpert 98 8MB AGP	$97
OEM Version	XPERT 99 RAGE128K 8MB AGP	[illegible]
	XPERT 128 16MB AGP	$141
	RAGE FURY 32MB AGP	[illegible]
	RAGE MAGNUM 32MB AGP	[illegible]
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	All-in-wonder 128 16MB AGP	[illegible]
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	RAGE FURY 32MB AGP	[illegible]
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	All-in-wonder 128 16MB PCI	$268
	All-in-wonder 128 16MB AGP	$268

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	Voodoo3 3000 16MB AGP	$248
matrox	Millennium G400 32MB	$258
	Millennium G400 Ultra 32MB	$329

Monitors

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	E773	$407
	G773	$459
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	PS790	$722
Optiquest	GF775 PerfectFlat	[illegible]
	PT795 PerfectFlat	$1021
	P810	$1317
	Optiquest Q71	[illegible]
	Optiquest V95	$477
Acer AOpen	15" 54e 1024 .28	$214
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	17" 77c 1280 .27	$348
	19" 99d 1280 .26	$534
SONY	17" 210GS / E200	$496/584
	19" 400GS / 420PS	$899/1034

Speakers

SoundWorks	4 Point Surround	$128
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MIDILAND	MU-499 120W SPEAKER	$15
	MU-450 300W w/Sub	$40
	MU-480 600W w/Sub	$64
	ACS-28 5W	$47
	ACS 33 10W w/Sub	$72
	ACS-64 60W w/Sub	$138
	ADA 70 14W w/Sub	$184
	ADA 880R 80W w/Sub	$378
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Aspen HX-66w Full Tower	$180
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Acer Ethernet ISA/PCI	$22/24
Acer 220C 10/100BT PCI	[illegible]
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Dynalink LPE-8129ATX 10/100BT	[illegible]
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Surecom 16 port 10BT Hub	[illegible]
Surecom 8 port 10/100BT Hub	$134
Surecom 16 port 100BT Hub	[illegible]
Surecom 8 port 10/100BT Hub	$178
Surecom 16 port 10/100BT Hub	[illegible]
Surecom 24 port 10/100 Hub	[illegible]
Acer 9 port 10BT Hub	$48

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Creative	Sound Blaster 16 oem	$34
	Creative Ensoniq PCI	$34
	Sound Blaster PCI 128 oem	$66
	Sound Blaster Live	$277
	Sound Blaster Live Value	[illegible]
	Live Value V2.0 Digital oem	$87
AOpen	AW37 Sound Card ISA	$19
	AW230 PCI 128 Wavetable	$23

CD ROM

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Toshiba 40X SCSI	$136
Toshiba 40X IDE	$77
Panasonic 40X IDE	[illegible]
Aopen 40X IDE	[illegible]
Creative 48X IDE	[illegible]
Samsung 40X IDE	[illegible]
Kenwood 52X IDE	$157
Panasonic 6X DVD IDE	$138
Pioneer 10X DVD IDE	$138
Creative 5x DVD II IDE	[illegible]
Toshiba 6X DVD IDE	[illegible]
Yamaha CRW 6416SK SCSI	[illegible]

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	Zip 250MB Int IDE	$235
	Zip 250MB Ext Parallel	$248

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	56K V.90 Int Voice PCI	$80
	56K V.90 Ext Voice USB	$120
Diamond (Retail Box)	56K Internal	$164
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The connected life

Continued from page 22

A little later we accessed the Web to find out more about the care and feeding of our mother's lawn, which had become the site of the chinch bugs' perennial make-the-grass-brown ritual. Again, X-Portal found several excellent references on how to get rid of the chinch bugs naturally, culturally, biologically or chemically. Rest assured my brother and I are planning some unusual spring greetings for our chinch bug friends ;)

New ways to communicate

Apple chief Steve Jobs' Macworld keynote was broadcast over the Web

The Web is increasingly becoming a powerful and useful communication tool. I avoid going to big, busy trade shows like Comdex or PC Expo. I'd rather "attend" by watching the live broadcasts of the major keynote speeches and product announcements over the Web. To an extent I am at a disadvantage because I can't get a feel for the crowd buzz or ask questions.

But on the other hand I have an advantage because I have three computers running. One is picking up the live broadcast over the Web, another runs WordPerfect with a story outline ready to be filled in with the speaker's comments, and the third is for software testing.

More companies now engage in live online chats using audio and/or video conferencing. With high speed Web service, the Web connections and resulting sound and picture are great.

Lotus is promoting a new secure Web chat software package called SameTime that allows Web sites to provide premium customer service. When a Web user types information into a SameTime chat box, it appears instantly on the screen of the company agent's PC. The agent can than respond to the query or pass it and the chat box along to a fellow support person who can deal with the problem. For companies looking to differentiate their products and services over the Web, this is a very attractive technology.

Sure Internet-based long-distance calls, email and chat sessions provide new ways to communicate cost effectively, but special agent software like Sun's JINI or Hewlett-Packard's e-Speak will really push the envelope. Already I can chat with fellow game players from around the world. Using these new technologies, anything seems possible over a live chat session, for example someone could show you how to use Adobe Photoshop to fix "red-eye."

Games and the Web

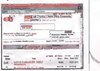
A friend of mine is a real card game buff. Bonnie plays hearts, bridge, euchre, spades, you name it. She introduced me to Yahoo's card games site (http://dir.yahoo.com/Recreation/Games/Card_Games/) and I can't tear myself away. Oh, woe is me. I've stayed up as late as 5 a.m. chatting with fellow players and trying to duck the Queen of Spades. There are hundreds of sites on the Web where you can play fantasy sports, cards, board games, TV games, war games, Java games and most popular of all with the teenage guys multiplayer computer games

Multiplayer games are all the rage on both sides of the Web People like me and a few million others like them because we get to test our mettle against real pros, plus some of the late night chats are really fun. Internet service providers (ISPs) and businesses advertising online love them because games make Web users "sticky." Instead of flitting from site to site players stay in one place for hours on end—my hearts addiction being proof of this The stickiness allows the site to expose players to hours of ads targetted specifically at the individual player who in order to play the "free" game, has registered by providing personal information or a "profile."

Even academics are getting in on the games For testing economic and social models, Web games provide lots of free test subjects.

Game vendors like Nintendo Sega, and Sony have finally realized that their game devices provide for the ultimate in Web video and audio experience With their latest devices they are linking users to the Web for multiplayer games and for browsing in new and unique ways.

Buy, sell and save on the Web



eBay is an example of a business that could not have existed before the Internet became a cheap, standard form of communication

Although the spirit of the Web is communal and it is regarded as a source of "free" things from software to information and ideas, online business is inevitable and very welcome for many consumers If the customer is king in the retail store, on the Net the customer is regarded as grand potentate and emperor. This is because the Web empowers consumers as never before

It allows consumers to quickly get all sorts of information on a product's features, quality and most importantly, price. They can comparison shop at the click of a mouse, rather than a long trip to another store. Several shopping-specific search engines provide tables of dozens of sites willing to sell a product and at what price Substitutes for products are easier to find Email, spamming, and the ability to set up their own "whine" Web sites allow consumers to complain more effectively than ever before.

So all hail the consumer and woe be to the seller who ignores this change in economic power

But sellers are not unhappy either. Brick and mortar retailers are finding that the Web allows them to easily sell into new markets Like IBM says in its e-business commercials, zinc tubing will sell up on the Net

Brand new e-business startups are even more ecstatic about the opportunity the Net brings them. They are not saddled with existing supply channels so they can develop radically different business models for success on the Web Many of the information services these businesses need to offer are delivered more effectively online than by any other mechanism Finally, these startups are not beholding to a chain of distributors to get their product and services delivered to their clients

New business model opportunities

The National Transportation Exchange and eBay are examples of unique new businesses created by the Web's capacity to connect instantaneously and cost effectively to a diverse and dispersed group of buyers and sellers

EBay sets up auctions for popular categories of goods, such as used computers, electronics collectibles (baseball cards, records comic books, etc). It provides a mechanism for buyers to bid in silent-auction fashion on listed goods/services For guaranteeing the authenticity of the buyer and seller eBay takes a small percentage of the total transaction

National Transportation Exchange does the same for truckers Most truck shipments are one way with the truck returning home empty, or "deadheading" in trucker parlance National Transportation Exchange matches empty trucks with shippers who need goods delivered somewhere along the trucker's return route Independent truckers and private fleets have found the National Transportation Exchange to be an effective

*Continued on page **27***

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The connected life

*Continued from page **25***

means of making money on what would otherwise be a no value run.

Both of these new "market makers" rely on the Internet to provide a very cheap standard way of communicating with their buyers and sellers. Their Web sites and software are the marketplaces that match buyers to sellers. It is remarkable how many other broker/market making opportunities are still awaiting their eBay

In contrast, discount stock brokers are an example of an existing business being changed profoundly by economies that are achieved over the Web. Discount brokers are using a new model of self service through the Web and deep discount prices to attract customers. Because customers come to them online they do not need a huge sales force or branch offices scattered across the country Customers open accounts and keep balances on the broker's central Web site, so the only set up costs for the discount broker are the creation and operation of a back office trade mechanism.

To help corral customers, discount brokers offer a wide range of financial information and portfolio management services While initial setup can be expensive (purchasing server hardware and software, and creating quote, trading, and portfolio services) the marginal cost is very low Servers today can handle the accounts and transactions of hundreds of thousands of customers. So once up and running, the clientele can expand exponentially before additional costs are incurred.

This allows discount brokers to charge as little as five percent of the commission charged by traditional brokers and make it up in volume. Discount brokers, including Schwab, E*trade, Datek, and Ameritrade, now do between 15 and 25 percent of all stock trades (depending on who does the counting) in North America.

More telling, as of May 1999, Merril Lynch, the largest traditional broker, is offering discount brokerage services and prices to its clients

These are but two examples of how major businesses have been changed by the Web and its particular economies. As the price of communicating and computing approaches zero, anyone who knows how to compute and communicate well using the Web will probably be able to offer the lowest cost product and services—and attract online attention.

Just ask the music industry, which must contend with the distribution of music over the Web in MP3 format at well below record store prices, and for most part for free.

Just ask the movie industry which will go through the same crunch when the MP1 movie format becomes a "hot commodity" In sum, just as in government, education, gaming and entertainment, the Web changes everything.

Revolving revolutions

It is a rarity to live through one revolution. The Industrial Revolution took more than 150 years to reach its peak first in Europe, then spread around the world over the next 30 to 50 years of the mid 19th century

The 50-year computing revolution is just about to reach a plateau as distributed, heterogeneous processing, empowered by the Web, is the last frontier to be standardized and managed well And now the communication and network revolution is taking off in the form of the World Wide Web Two revolutions in a lifetime—no small wonder ❑

Jacques Surveyer talks Web at http://www.inforamp.net/~jsurv

The new New World

*Continued from page **20***

Once software can run in a browser, it can run just about anywhere on a WebTV, a smart telephone handset, or in the super-powerful game players from Nintendo, Sega, and Sony This is another reason the race to get the last 50 percent of homes connected and computerized is going to be so interesting.

At the same time, new Web software technologies are profoundly changing how people interact with the Web Perhaps the most eye-catching are new media applications such as AOL and Microsoft's Internet chat programs Real Player's plug ins for audio and video or Macromedia's new Flash and Shockwave plug-ins

When TV was new people didn't really understand how to program it, so initially broadcasts borrowed radio and film techniques But as they began to explore the medium, a set of techniques and conventions specific to television were developed.

In many ways, these new Web software technologies are the tools Web programmers are using to explore the unique properties of the Web as a medium. We've barely begun. ❑

Jacques Surveyer talks Web at http://www.inforamp.net/~jsurv

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Resources for the new New World

Books

Digital Darwinism
By Evan Schwartz, Broadway Books, 1998. ISBN 0-7679-0333-1 $38 Details major e-business strategies of a number of players in the Web economy

Information Rules
By Carl Shapiro and Hal Varian, HBS Press, 1999 ISBN 0-87584-863-X, $48 Describes economics of information and the Web, network and lock-in effects and costs

Client/Server Programming With Java and CORBA. Second Edition
By Dan Harkey and Robert Orfali, *John Wiley and Sons*, 1998 ISBN 0-471 24578-X, $71 Describes Web software based on Java, EJB, and CORBA.

Net Future
By Chuck Martin, McGraw-Hill, 1999 ISBN 0-07-041131-X $40 Tracks the major cybertrends and players who is winning and why

Using HTML 4, XML & Java 1.2: Platinum Edition
By Eric Ladd MacMillan, 1998 ISBN. 07897 1759-X, $89. A reference manual filled with examples of the three most important Web "languages."

Magazines

Business 2.0
This monthly print publication is a source of great Web ideas and business models.

Internet Week
This weekly print magazine covers technology as well players in the Internet industry

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A online weekly covering the Web and e-business.
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The Industry Standard
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http://www.wired.com.

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Webopedia
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http://www.webopedia.com

—Compiled by Jacques Surveyer

New Web software

Web software is going through two transitions already From static to dynamic Web pages and from thick clients to thin clients.

My Web site (http://www.inforamp.net/~jsurv) is an example of a static site All the pages have been preset and designed (in Symantec's Visual Page and Adobe's GoLive) using HTML (hypertext markup language), a little JavaScript, Java Applets and GIF animated GIF , and JPEG image files *The Computer Paper*'s Web site is a mixture of static and dynamic pages.

The sites of online book vendors, like Amazon.com, Chapters, and Indigo, are examples of dynamic pages. They use HTML just like everybody else, but the Web page and its HTML is assembled dynamically depending on two things. the particular information you request, and what you did when you last visited the site.

Online bookstores, in particular, often remember what you bought and how you paid for it The components of the Web pages you view are assembled on the fly, filling in promos for suggested readings or expected send-to or bill-to information

Dynamic pages are usually server-centric (thin clients) Most of the assembly work is done back at the Web server using such technologies as Java Servelets, JSP (Java Server Pages), and CORBA, rather than the traditional combination of CGI and ASP (Active Server Pages), which can run up to ten times as slowly as the dynamic technologies.

—Jacques Surveyer

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Speaker Unit	Full Range 2.5" Cone, Magnetically Shielded	Mid-High Frequency 2" Cone Magnetically Shielded	Low Frequency 5" Cone Magnetically Shielded	Full Range, 3" Cone Magnetically Shielded, .6" Tweeter	Low Frequency, 6.5" Cone Magnetically Shielded
Controls	Volume, Power, Tone Input 1 Volume	Master Volume Power	Bass Control, Power Switch Master Volume	Volume, Power Balance Treble Bass Input 1 Volume	Volume Hi-Lo Cut Power
Unit Colour	Computer White, Black	Computer White, Black	Computer White, Black	Computer White, Black	Computer White, Black
Auto On/Off			Selectable	N/A	Yes

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In the palm of your hand

TCP Lab takes a big look at the small end of computing

By Sean Carruthers

I remember watching an episode of *Star Trek: The Next Generation* once upon a time, and seeing characters handing each other information-filled electronic tablets. At the time, I thought how nifty it would be to carry around a little device with the ability to read text, organize information, and enter data. So did the technology companies, apparently. In a world dominated by desktop machines and slightly clunky notebook computers, a few companies put together portable tablet-style devices that displayed data and accepted user input.

The first one to capture significant attention was Apple's Newton. The Newton entered the market with a big screen (relatively speaking), and it was possible to upgrade both the software and hardware. Curious computer fans were excited about the possibilities of the device, and many people became rabid devotees. In the end, though, the timing of the Newton seemed to be wrong. People weren't sure that they needed everything it had to offer, and weren't willing to spend hundreds of dollars on it. Coupled with spotty support from Apple, the Newton drifted through the '90s, until it was discontinued in early 1998.

Information in your Palm

By then the world seemed to belong to an upstart platform called Palm. Founded in 1992, Palm Computing started a revolution in handheld computing when it introduced a device called the PalmPilot. It was a pretty basic device, with only a small amount of memory onboard and a few key applications. That simplicity won over a lot of people, who became PalmPilot fanatics.

Since the introduction of the line, the Palm platform has gone on to capture the majority of the handheld market (over 80 percent in Canada, according to one independent report). The original PalmPilot has since been joined by the PalmPilot Professional, a few variations on the Palm III, and the slimmer Palm V. Users are anxiously awaiting the Canadian release of the Palm VII, which add wireless connectivity directly into the Palm hardware.

To CE or not to CE

Though the Palm platform still has a commanding lead in the handheld market, a good number of devices make use of Microsoft's operating system for handheld devices, Windows CE. Based on the Windows operating system for desktop and notebook computers, Windows CE has a similar look and feel, but is pared down to provide only the functionality that handheld users need—or at least what Microsoft thinks they need.

Currently, Windows CE is incorporated into both palm-sized units that don't have a keyboard, slightly larger "coat pocket-size" devices that have a small keyboard, and into one that is about the same size as a mini-notebook PC.

At the beginning, reaction to Windows CE was a bit tepid. Many handheld fans who had already settled into the world of the Palm found the Windows 95-like screen interface did not translate well on CE devices with tiny screens and half VGA resolutions. When traditional Windows elements like the Start button and menu bars were placed onto the small screen, users quickly became confused (or irritated) by the cluttered display. Although it seemed like it could be a very powerful solution for palm sized devices, CE tried to cram too much into too small a space, thus spawning the abbreviation "WinCE"—which is what many users did when confronted with Windows CE.

Where Windows CE finds a better match is in a larger form factor. For one thing, a larger screen makes it easier to include the familiar Windows elements, yet still retain enough space on the display for the user to do something productive. Further, where the lack of a keyboard on palm-sized units limits available screen space, this is not an issue with the larger systems with built-in keyboards. In this category, units range in size from those small enough to tuck into a jacket pocket or handbag to those that more closely resemble a mini-notebook computer. For example, the case dimensions of IBM's Windows CE-powered WorkPad Z50 are within a couple of millimeters of the Celeron powered ThinkPad 240 that runs Windows 98.

So the question must be asked: why bother with a handheld when you can get a much more powerful notebook computer? The reality is most users who want a portable computing platform only need it for a limited range of tasks. They want to take notes, compose email, schedule their day, and some may occasionally want to surf the Net. Additionally, they want something relatively small and light that turns on immediately. Notebooks are bulkier, require users to sit through a boot-up process and are much more expensive. For users whose traveling needs are light, a handheld device can deliver the capabilities and performance required at a fraction of the cost.

For use in large companies, CE devices may also contribute to lower total cost of ownership, since the operating system and applications are in ROM, so a user can't inadvertently delete a critical file, stuff the hard drive with personal material or pick up a virus, as can happen with a Windows notebook.

The candidates

To help you determine what would be the best fit for your handheld

Continued on page **32**

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In the palm of your hand...

Continued from page **30**

needs, we recently took a look at a number of handheld devices, that vary in form factor and operating system.

3Com Palm IIIx

Suggested retail price $449
http://www.palm.com

The PalmPilot has been the success story of the handheld world, taking the majority of the market because of its simplicity and ease of use. With the first major revision to the platform, the company dropped the "Pilot" designation, and called the unit the Palm III. The Palm IIIx is a further refinement of the Palm III.

- The Palm IIIx uses the PalmOS, making it simple to navigate and use.
- Input is via a stylus. There are four application launcher buttons on the front (which also turn the device on), and a scroll button
- The form factor for this model is the same as earlier Palm III models, with a removable plastic flip top for screen protection
- Its new screen is easier to read. The backlight illuminates the text instead of the background which effectively reverses the screen for easier night reading and lighter battery usage.
- Onboard memory is 4 MB, allowing users to store more than they could on more basic models.
- Is powered by two AAA batteries.
- Optional modem attaches to the bottom of the Palm IIIx.
- Connects to the PC via a serial interface
- Although the Palm IIIx is compatible with the Mac platform, it requires a serial cable adapter and a free software download to function. Users have the option of purchasing the Palm MacPac (US$15), which includes both.
- An infrared port allows Palm users to beam data between Palm devices, as well as synchronizing with PCs or Macs that have an IR port.

The Palm IIIx model is a welcome addition to the Palm family. It's basically the slightly older Palm III, with an upgraded screen and more memory. For those who haven't used the Palm software before, the Graffiti character input method is a bit hard to get used to (resembling a cross between handwriting and hieroglyphics), but once you're familiar with it, it becomes a quick and easy way to enter text. Those who have Palm-ed before will find this a very usable model, but with better hardware.

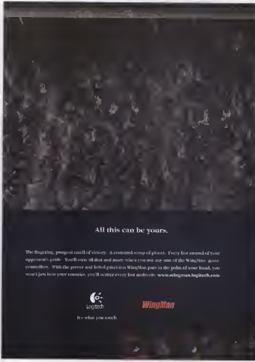
3Com Palm V

Suggested retail price $579
http://www.palm.com

Although it's been around for a while, the Palm V is still one of the newer members of the Palm line, and its slim design definitely makes it one to oooh and ahhh over.

- At just under 1 cm (.5 in.) thick, the Palm V is one of the thinnest and most portable handhelds.
- The Palm V uses the same operating system and screen layout as other members of the Palm family
- Input is via a stylus. There are four application launcher buttons on the front (which also turn the device on), and a scroll button
- Improved screen (the same as used in the IIIx) is easier to read. It also has a backlight that revers es the screen in the dark for easier night reading and lighter battery usage
- The Palm V has 2 MB of onboard memory, which

Continued on page **36**



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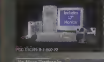

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In the palm of your hand...

Continued from page **32**

goes a long way on the Palm platform
- Even in its thinner size the Palm V includes an infrared interface for beaming information between infrared-enabled Palm units
- Contains an internal battery which recharges every time the Palm V is placed into the synchronization cradle.
- The Palm V is ambidextrous! The screen cover flips over from the side, and is attached by a post the same size as the pen allowing the cover and pen to be installed on either side of the device to suit the user
- An optional modem attachment is available
- The Palm connects to the PC via a serial interface
- Although the Palm V is compatible with the Mac platform it requires a serial cable adapter and a free software download to function. Users have the option of purchasing the Palm MacPac (US$15) which includes both.

Even though the Palm III line was considered svelte, the Palm V goes further, shrinking it in all three dimensions while retaining the same functionality The bad news: it only comes with 2 MB of onboard storage, and if the batteries run dry you have to head to your docking station instead of being able to pop in a fresh pair. Still, 2 MB goes a long way using the Palm platform, and the internal battery lasts quite a while, so the chances of running out of power will be minimized (we've run the Palm V for weeks at a time between charges) Those who are willing to learn the Graffiti input method will love it

Casio Cassiopeia E-100

Suggested retail price $800
http://www.casiocanada.com

The Cassiopeia is Casio's handheld line, and now it's available with a color screen.

- The Cassiopeia uses Windows CE as its operating system for seamless integration with a Windows desktop.
- Input is via a stylus and action buttons (two on the side of the device, and a directional tilt-panel on the front) There are three application launcher buttons on the front of the device and one on the side, all of which also power up the device
- The screen is 240x320 pixels which sometimes gets crowded with Windows CE graphical elements
- The E-100 has 16 MB of onboard memory
- A compact flash slot offers additional storage
- Users can purchase an optional multimedia package to provide digital stereo output for use on an MP3 device
- An infrared interface allows users to exchange data with other CE devices and infrared-enabled desktop or notebook PCs
- Although the E-100 doesn't come with a modem, one is available for purchase separately
- Uses a proprietary lithium ion battery, which recharges when the handheld is in the synchronization cradle
- Connects to a PC via a serial interface
- Ships with a protective softcover case

Casio is known for a lot of interesting and useful electronic devices, from keyboards to cameras, to organizers and CE devices This device is quite nice, with a color screen and better audio options (for those who just can't decide whether their next purchase should be a CE device or an MP3 player) While the screen is a bit small for those who want to do serious work, it still makes for an attractive traveling companion for those who want to jot notes, organize their schedule and have a bit of fun while doing it.

Compaq Aero 2110

Suggested retail price $680
http://www.compaq.ca

The number one PC manufacturer in the world has also been in the business of making handhelds The Aero line was one of the first to incorporate a color screen into a palm sized device

- The Aero uses Windows CE as its operating system for seamless integration with a Windows desktop.
- Input is via a stylus and action buttons along the left side of the device It has four application launcher buttons on the front of the machine, which also turn on the machine
- The screen is 240x320 pixels which can seem tight when Windows CE elements appear on the screen.
- The 256-color screen uses reflective TFT technology which saves battery power by using ambient light and allows for better visibility of the display in bright sunlight. It also has a backlight for low-light conditions
- The 2110 model comes with 8 MB of onboard memory which is upgradeable to 24 MB
- A compact flash slot on the top of the machine can be used for extra data storage or for hardware attachments (like a modem)
- The Aero uses a proprietary lithium ion battery which recharges every time the Aero is placed in the synchronization cradle.
- In addition to an internal microphone and speaker the Aero has a headphone and microphone jack for better audio input and output.
- The Aero has an infrared interface for sending data to other handhelds or infrared-enabled PCs.
- Connects to a computer via serial interface
- Ships with a protective softcover case

The big news with this handheld is the reflective TFT color display which is a great way to lengthen the battery life of a handheld. Most color units have reasonably short runtimes because the screens require lighting. However the Aero's reflective model utilizes the ambient light in the user's location, keeping power requirements low, but allowing the unit to be backlit when necessary Otherwise, the Aero is a pretty solid CE device with all of the palm top functionality CE devices offer (still a bit on the small side to do serious work, though), making it a good choice for fans of the palm-sized CE platform.

Although too late to include in this review, Compaq announced a revision to the 2110, designated the 2130 The new model includes 24 MB of memory and a color screen that supports 65 000 colors. Compaq also introduced a "Palm killer" Aero 1500, a monochrome system that weighs less than 142 g (5 oz.) and is just 1.27 cm (5 in.) thick.

Franklin Rex Pro 5

Suggested retail price: $326.95
http://www.franklin.com/rex/

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Although it's technically an organizer, the Rex Pro has enough in common with many handheld devices to make it worth mentioning here.

- This device has the form factor of a PC Card which means the Rex Pro can be inserted into the PC Card slot of any notebook PC for synchronization or data entry (once the proper software has been installed on that notebook, of course)
- When used independently, data can be entered and modified with buttons on the front of the machine, but as the user is forced to scroll through the alphabet character by character, it can become tedious if much data has to be entered this way
- It has 512 KB of onboard memory, but since the information is stored as plain unformatted text, it goes a long way
- In addition to notebooks, the Rex Pro is optimized for use with Hewlett Packard handheld devices that feature a PC Card slot.
- It has a docking station option ($69.95) that allows the Rex Pro to be used and synchronized with a standard PC desktop. The docking station is required for compatibility with Windows NT. The Pro 5 DS package ($359.95) includes the docking station and the Rex.
- The Rex is powered by two watch-style CR2025 batteries, which, under regular use, last up to six months
- A calculator-style softcover carrying case is included to protect the screen

Although the character-by-character input method may make this organizer less attractive than a full-fledged handheld device, Franklin's Rex Pro 5 still has its fans. It's very small and can be tucked away in a shirt pocket more easily than any of the other devices. It has a lot of room for addresses and appointments, and syncs easily enough with a notebook PC or HP handheld device. For anyone who just wants something to look up phone numbers and appointment times and doesn't need to input much information, the Rex is worth considering.

Handspring Visor Deluxe

Direct selling price: US$249
http://www.handspring.com

If you're interested in handheld computing, there's a good chance you've heard about Handspring by now. The company is the brainchild of Donna Dubinsky and Jeff Hawkins, who made a name for themselves as founders of Palm Computing Inc., makers of the very successful Palm line. The two formed Handspring after leaving Palm, and have licensed the PalmOS for use in this new handheld.

- The Visor uses the PalmOS operating system. Anyone familiar with the Palm should be immediately comfortable using this device.
- The Visor Deluxe comes with 8 MB of onboard memory
- Has a built-in microphone for audio recording
- The key new feature of the Visor is the plug-and-play Springboard slot on the back. It is an open-backed slot designed to hold anything from straight data cartridges to hardware upgrades. A number of partners are currently designing items to fit the Springboard slot, ranging from games to cell phone attachments and pagers, from global positioning system modules to MP3 players
- Instead of a standard serial connection, the Visor uses USB, making it easy to connect to both USB-enabled Windows and Mac computers
- A detachable plastic cover is included to protect the screen. When the Visor is in use, the cover can be attached to the back of the unit.
- The Visor Deluxe ships in five different colors (ice, blue, green, and orange, in addition to the standard graphite) and comes with a protective softcover case
- The basic Visor model (US$179) ships without the softcover case and has only 2 MB of onboard memory. The Visor Solo model is the same as the basic model, but has no synchronization cradle. It is for those who plan to use it only as a stand-alone unit.
- All models of the Visor ship with an enhanced scientific calculator program, advanced date book, and world clock.

Although the PalmOS has been licensed before, this is the first major variation on the Palm platform. The reason for this is the Springboard slot. Although it is possible to

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The Computer Paper Year 2000

Editorial Calendar

	Cover Feature	Lab Report	Tech Enterprise
January	1000 years of Computing Data storage, computation and info management	Digital cameras	Ecommerce and the small business
February	Unleash your Creativity with Graphics Software	UPS systems	Remote Access
March	Hit the Road. Mobile Computing hardware and software	Laser Printers	Databases in the Internet era
April	Convergence at home. TVs, PCs and Phones, oh my!	Offline video editors	Tools for Collaboration
May	Tuning up your computer: Tools and techniques to improve your computing	Storage	Backup and archiving
June	Working the Web: Tools for personal fame and fortune	Inkjet printers	Security Tools and Techniques
July	Ultimate Peripherals and Accessories Guide	Monitors	Tools for business presentations
August	What's new in New Media	PC Music	Knowledge Management
September	Tracks and strategies for a career in IT	Multimedia cards (audio / video)	Video Conferencing
October	Mondo PC: the system you really want	Flat-panel displays	Small Business Essentials
November	TCP's Best of Breed software picks	Multifunction machines	Network state of the union
December	Gift Guide. Great gifts for computerists	Handheld computers	Watching the pennies. Accounting and Payroll software

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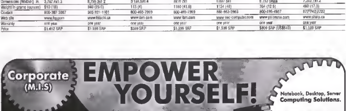
Schedule subject to change

	3Com Palm IIIx	3Com Palm V	Casio Cassiopeia E-100	Compaq Aero 2100	Franklin Rex Pro 5	Handspring Visor Deluxe	Hewlett Packard Jornada 420
Operating system	PalmOS	PalmOS	Windows CE	Windows CE	Starfish TrueSync	PalmOS	Windows CE
Compatible with desktop OS	Win95/98/NT, Mac	Win95/98/NT, Mac	Win95/98/NT	Win95/98/NT	Win95/98	Win95/98/NT, Mac	Win95/98/NT
Input method	stylus	stylus	stylus	stylus	Button/sync mode	stylus	stylus
Connection to PC	serial	serial	serial	serial	PC Card slot	USB	serial
Screen resolution	160x160	160x160	240x320	240x320	160x98	160x160	240x320
Screen type	monochrome LCD	monochrome LCD	64,000-color TFT	reflective 256-color TFT	monochrome LCD	monochrome LCD	256-color passive matrix
Onboard memory	4 MB	2 MB	16 MB	8 MB	512 KB	8 MB	8 MB
Expansion slots	none	none	CF	CF	none	Springboard slot	CF
Power	2 x AAA	internal Li-Ion rechargeable	removable Li-Ion rechargeable	removable Li-Ion rechargeable	2 x CR2025	2 x AAA	removable Li-Ion rechargeable
Modem	no	no	no	no	no	no	no
Infrared capability	yes	yes	yes	yes	no	yes	yes
Audio capability	no	no	yes	yes	no	yes	yes
Protective cover	attachable plastic lid	attachable softcover lid	softcover case	softcover case	softcover case	softcover case	attached plastic flip cover
Extras			headphone jack	headphone/mic jacks			headphone jack
Dimensions (WxDxH) cm	8.1x11.9x1.8	7.8x11.4x1	8.38x13.12x2	8.5x13.4x2	8.6x5.4x0.3	7.6x12.2x1.8	8.1x13x2.2
Dimensions (WxDxH) in	3.2x4.7x0.7	3.1x4.8x0.4	3.25x5.125x0.75	3.34x5.27x0.78	3.38x2.13x0.12	3.0x4.8x0.7	3.2x5.1x0.8
Weight in grams (ounces)	178 (6)	113 (4)	255 (9)	260 (9.2)	35 (1.2)	153 (5.4)	250 (8.8)
Contact	800-881-6342	800-881-6342	905-882-0700	800-567-1616	705-721-1582	888-565-9393	800-387-3867
Web site	www.palm.com	www.palm.com	www.casiocanada.com	www.compaq.ca	www.franklin.com/rex/	www.handspring.com	www.hp.com
Warranty	one year	one year	one year	one year	one year	one year	one year
Price	$448 SRP	$579 SRP	$800 SRP	$661 SRP	$329.95 SRP	US$249 direct selling price	$679 SRP

	Hewlett-Packard Jornada 680	Hitachi HPW 600ET	IBM Workpad C3	IBM Workpad Z50	NEC MobilePro 800	Psion Series 5 mx	Sharp Mobilon HC-4600
Operating system	Windows CE Pro	Windows CE Pro	PalmOS	Windows CE Pro	Windows CE Pro	EPOC	Windows CE
Compatible with desktop OS	Win95/98/NT	Win95/98/NT	Win95/98/NT, Mac	Win95/98/NT	Win95/98/NT	Win95/98/NT	Win95/98/NT
Input method	stylus, keyboard	stylus	stylus	keyboard, trackpoint	keyboard, stylus	keyboard, stylus	keyboard, stylus
Connection to PC	serial	serial	serial	serial	serial	serial	serial
Screen resolution	640x240	640x480	160x160	640x480	800x600	640x240	640x240
Screen type	64,000-color passive	64,000-color passive	monochrome LCD	64,000-color passive	64,000-color passive	monochrome LCD	256-color passive matrix
Onboard memory	16 MB	16 MB	2 MB	16 MB	32 MB	16 MB	16 MB
Expansion slots	CF, PC Card	CF, PC Card, USB port	none	CF, PC Card	CF, PC Card, USB	CF	PC Card
Power	removable Li-Ion rechargeable	removable Li-Ion rechargeable	internal Li-Ion rechargeable	removable Li-Ion rechargeable	removable Li-Ion rechargeable	2 x AA	removable NiMH rechargeable
Modem	56Kbps	56Kbps	no	33.6Kbps	56Kbps	none	33.6Kbps
Infrared capability	yes	yes	yes	yes	yes	yes	yes
Audio capability	yes	yes	no	yes	yes	yes	yes
Protective cover	folds open	clip-on plastic cover	attachable softcover	folds open	folds open	folds open	folds open
Extras				VGA out, headphone/mic jacks	VGA out, headphone jack	compatable with IR modems, cell phones	video camera option
Dimensions (WxDxH) cm	9.5x18.9x3.4	21.9x16x3	7.8x11.4x1	20.3x25.9x2.5	24.4x19x2.5	17x9x2.3	18.8x9.8x2.9
Dimensions (WxDxH) in.	3.7x7.4x1.3	8.7x6.3x1.2	3.1x4.5x0.4	8x10.2x1	9.6x7.5x1	6.7x3.5x0.9	7.3x3.7x1.2
Weight in grams (ounces)	510 (18)	840 (29.6)	113 (4)	1160 (41.6)	1134 (40)	354 (12.5)	480 (17.3)
Contact	800-387-3867	905-821-1101	800-465-7999	800-465-7999	888-863-2868	800-896-4567	877-742-7722
Web site	www.hp.com	www.hitachi.ca	www.ibm.com	www.ibm.com	www.nec-computer.com	www.psionusa.com	www.sharp.ca
Warranty	one year	one year	one year	one year	one year	one year	one year
Price	$1,412 SRP	$1,999 SRP	$569 SRP	$1,299 SRP	$1,599 SRP	$809 SRP (US$549)	$1,180 SRP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Psion takes on Palm VII with Revo

NB—In a carefully controlled spoiler operation, Psion unveiled its answer to the Palm VII, the Revo PDA, as *TCP* went to press The Palm VII, from 3Com's Palm Computing subsidiary, was rolled out across the U.S. on the same day (A representative of Palm Computing in Canada did not have a Canadian release date, but expects it will be sometime in the new year.)

Selling for US$500, the Revo is a "pocket" version of Psion's Series 5 PDA (which is included in this month's *TCP* Lab Test), but with a larger touch-screen, sleeker design and a similar keyboard and tips the scales at 200 g (7 oz.)

Like the Series 5 the Revo is based on the EPOC32 embedded operating system that Psion brought to the Symbian joint venture with Ericsson, Nokia, and Motorola. Unlike the "shipping-real-soon now" Symbian products, however, the Revo is shipping.

Like the Series 5 the Revo's touch-screen folds out from the keyboard chassis to "present" a greater screen surface than would normally be available using a conventional clamshell design The keyboard, meanwhile, slips slightly forward to accommodate the screen

Embedded software supporting word processing, email and Internet access comes as standard on the Revo, which has from 2 MB of onboard memory.

Optional extras include a 56Kbps travel modem with a GSM cellular data facility, allowing Revo users to plug into the Internet while on the move, either via landline or mobile phone Pricing for the modem is expected to be around US$160.

In parallel with the launch of the Revo, Psion has also officially launched its Planet Psion ISP operation which is designed to partner with Psion's growing range of PDAs Psion is tapping LineOne, the United Media ISP for the network access and content on the Planet Psion Web portal

The Planet Psion Web portal will build on the existing Psion ISP operation, which went free-to-subscribe this summer—from its original monthly subscription model The plan for the portal is to include Internet content aimed at mobile users such as news, travel, business sports, and entertainment information

Palm VII adds plenty of e-content

3Com is also bundling a range of Internet services with its new handheld computer. Palm VII users access these services—including the ability to buy books, bid in online auctions, make stock market transactions, pick up email, and receive news updates—through a system called Web-clipping

Jan Kruger product manager at Palm.net said more than 1,000 content providers have indicated they will write Web-clip compatible programs for their Web sites and that as these become available they will be downloadable from Palm's Web site which is automatically accessible through the Palm VII

Kruger said the Palm VII features two new functions unavailable on earlier Palm Pilots the Web-clipping system and the Internet messaging ability He said a big advantage of Web-clipping's abbreviated format is that battery life is considerably lengthened and response time is boosted, averaging five-to-10 seconds per download The messaging service is preloaded and will handle short email, but a more sophisticated email program that will handle most standard email functions is also available for download

The Palm VII also has an IR port that can be used for a fax device and a serial port for connecting other add-ons. Online connectivity is achieved through a built-in wireless data radio, which links to the Palm.net server

The Palm VII has a suggested retail price of US$499, which includes three subscription options to Palm.net The Palm net services start at US$9 99 per month ❑

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Continued from page ***37***

attach additional hardware to the bottom of Palm devices using the Open Palm Interface, the placement of the Springboard on the rear of the Visor allows for better integration of a wider variety of data and hardware add-ons. The fact that it's cheaper than 3Com's own Palm devices will make it even more appealing. The catch: Handspring products are currently only be available through direct order for shipping in early October, but are expected in the retail channel early in 2000.

Hewlett Packard Jornada 420
Suggested retail price: $878
http://www.hp.com

Hewlett-Packard has its hand in a lot of different technologies, from desktop systems to printers to cameras. As you'd expect, it's also involved in the handheld market with its line of CE devices. This one is a palm-sized model.

- The palm-sized Jornada 420 comes with a 256-color CSTN screen, with a resolution of 240x320. Size-wise, this can sometimes feel cramped when too many Windows CE elements appear. Because the screen is a passive matrix, it isn't as easily readable as units with a TFT display.
- The 420 ships with 8 MB of onboard memory, which can be upgraded to 16 MB.
- A compact flash slot allows for extra storage or hardware expansion.

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3. Intel Celeron 500 Upgrade

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4. Intel Pentium III 450 Upgrade

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5. Intel Pentium III 500 Upgrade

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Continued from page 48

- Input is via a stylus and action buttons along the side of the machine. It has four application launcher areas on the screen itself. Touching any of these buttons or the screen powers it up.
- A plastic flip-cover protects the screen when not in use, and flips around to the back when the device is being used.
- The 420 is powered by a proprietary lithium ion battery, which is recharged whenever the machine is placed into the synchronization cradle.
- It has a built in microphone and speaker for voice recording, and a headphone jack for better output.
- Has an infrared port for communication with other CE devices and infrared-enabled PCs.
- Connects to a PC via serial interface.
- A compact flash slot allows users to add extra storage or hardware (modem, pager, etc.)

As far as palm-sized models go, the Jornada 420 has some nice features, with a protective cover and well-labeled buttons in addition to the standard functionality palm-sized CE devices offer. Where it falls short is in the quality of its screen, which may not be to everyone's taste. However, the passive display means the Jornada 420 checks in at a lower price than some of its competitors. For users who don't mind a passive display, but want the functionality of a CE-based device, the Jornada 420 is worth a look.

Hewlett-Packard Jornada 680
Suggested retail price: $1 412
http://www.hp.com

The Jornada line also comes in a larger size, complete with keyboard and extra goodies. The 680 is the more affordable and compact of the two Jornada models with keyboards currently available (the other one is the 820, which is a sub-notebook-sized CE device).

- The Jornada 680 uses Windows CE Professional Edition, which includes more software (including "pocket" versions of Microsoft Office applications, and Internet Explorer).
- It has a 64 000-color, passive-matrix screen with a resolution of 640x240. Size-wise, this is large enough to do more serious work (as opposed to the palm-sized CE devices). Quality-wise, the passive display isn't as good as TFT, but should be good enough for most situations.
- In addition to stylus input, the 680 has a keyboard, which is about 75 percent the size of a standard desktop keyboard. It can be uncomfortable to use at times, but is certainly a lot faster to use than Jot Character Recognition input.
- It has 11 application launch buttons on the keyboard, all of which power up the machine. Three audio buttons on the front edge of the machine

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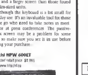
also power it up, but they can be locked while it is being carried in a handbag or briefcase to prevent power drain if the buttons are accidentally hit.
- The Jornada 680 slips into a cradle that connects to a PC via serial cable. The cradle has a "pen-holder" for the stylus
- The 680 also has an infrared port for easy communication with other infrared-enabled CE devices and computers
- Has a built-in 56Kbps modem
- Onboard memory is 16 MB but is expandable using a compact flash card
- Has a A PC Card slot for attaching additional hardware.
- The 680 is powered by a removable lithium ion battery that is recharged when the device is plugged into an outlet or dropped into the cradle
- Includes Starfish TrueSync software, which allows the Jornada 680 to be used with Franklin's Rex Pro personal organizer
- An optional PC Card-format VGA-out module allows the Jornada to be used with an external monitor but it must be purchased separately

The first of our more fully featured handheld models this month the Jornada 680 is a handy little unit to have around It's still small enough to easily fit into a handbag or jacket pocket but it comes with keyboard input and a larger screen than those found on palm-sized units.

Although the keyboard is a bit small for everyday use it's an invaluable tool for those on the go who need to take notes in meetings or at press conferences The passive-matrix screen may be a problem for some users, so make sure you see it in use before making your purchase

Hitachi HPW 600ET
Suggested retail price $1 995
http://www.hitachi.ca



There are currently two handheld units available from Hitachi, and this one is a bit different from any of the other models looked at this month, for a few key reasons.

- The Hitachi HPW-600ET uses Windows CE Professional Edition which includes more software (including "pocket" versions of Microsoft Office applications, and Internet Explorer)
- Although it's one of the larger devices looked at this month, the Hitachi handheld has no keyboard input. Instead it resembles a writing tablet, with a larger passive-matrix screen (640x240) and stylus-only input. Quality-wise the passive screen isn't up to the quality of a TFT display but should be good for most circumstances
- The unit starts up when the screen is tapped
- It has five user-definable launch buttons on the screen
- Comes with 16 MB onboard memory which is expandable to 32 MB.
- Has a compact flash slot, for additional storage, as well as a PC Card slot and USB port for attaching additional hardware devices (Note USB devices require specific CE drivers to work with any USB-enabled CE device including this one.)
- Has a built-in microphone and speaker for voice memo capability and an earphone jack for better audio output.
- It is powered by a proprietary lithium ion battery which is recharged when the device is plugged in.
- Has a built-in 56Kbps modem
- Comes with a clip-on screen protector that is not tethered to the machine.
- The HPW-600ET can be connected to an external monitor
- It has an infrared port for communication with other infrared-enabled CE devices or computers

Hitachi's HPW-600ET is larger and pricier than many of the other handheld-sized devices, and lacks a keyboard which may limit its appeal. However it's good at playback of data and presentations, making it the ideal traveling companion for those who need to bring along data for review or for showing others.

If you add a CE-compatible USB keyboard, the larger display would certainly give the HPW-600ET an advantage over other CE devices with screens that are only half the size. Where this unit will find a home is in specialized applications like forms-based data gathering, where the larger screen will ease the task of picking items from predefined lists, selecting check boxes and other forms-related functions

Continued on page **45**

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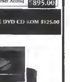

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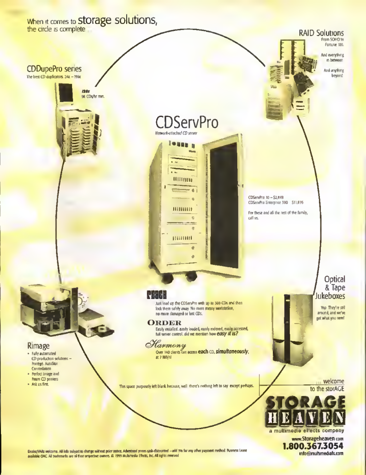

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In the palm of your hand..

Continued from page **43**

IBM WorkPad C3

Suggested retail price $599
http://www.ibm.com

Functionally, the WorkPad C3 is identical to 3Com's Palm V, but is aimed at IBM's more enterprise-oriented audience and comes in basic black. For full details of this system refer to the review of the Palm V in this article

IBM WorkPad Z50

Suggested retail price. $1,299
http://www.ibm.com

In addition to palm sized units, IBM's WorkPad line features larger units The Z50 is roughly the same form factor as the company's ThinkPad 240 sub-notebook, but uses Windows CE instead of Windows 98

- The WorkPad Z50 uses Windows CE Professional Edition which has more functionality than Windows CE and features more software (including "pocket" versions of Microsoft Office applications).
- Like its siblings in the ThinkPad line, the WorkPad Z50 skips stylus input and uses a nearly full-sized keyboard (95 percent the size of a standard desktop keyboard) and a trackpoint This gives it the feel of a notebook computer and makes it very easy to use
- The keyboard includes 12 application launch keys, labeled A1 through A12, which also turn on the machine (but don't launch the application from the power-off state) These keys can also be user defined
- The screen is a 640x480 passive-matrix display with a color depth of 64 000. Size-wise it's big enough to do serious work (which is enhanced when combined with IBM's excellent keyboard) Quality-wise the passive display is not as good as a TFT screen, but is good enough for most circumstances
- It come with 16 MB of onboard memory which can be expanded to 48 MB.
- It has both PC Card and compact flash slots for additional hardware and storage.
- With the touch of an external button users can dictate voice memos even when the case is shut It also includes a headphone and microphone jack, for better audio input and output
- The Z50 uses a proprietary lithium ion battery which is recharged when the unit is plugged in.
- An infrared port allows the Z50 to communicate easily with other infrared-enabled CE devices or computers
- It has a built-in 33.6Kbps modem.
- A standard VGA-out port allows users to hook the Z50 to a monitor without an adapter or optional PC Card This is a handy feature for those who want to use it for presentations

Put side-by-side with IBM's ThinkPad 240 this unit looks nearly identical, with roughly the same form factor, including IBM's excellent keyboard and trackpoint combination. So why wouldn't users go straight to the more fully featured ThinkPad line? The answer is simple while there are no savings on size the WorkPad Z50 is less than half the price of the ThinkPad 240 ($1 300 to the 240's $3,000) Also, many users may only need the kind of functionality of CE instead of Windows 98

While the passive-matrix display may not suit everyone, the WorkPad Z50 is a nice size for more serious work, very usable, and relatively affordable to boot.

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NEC MobilePro 800
Suggested retail price: $1 599
http://www.nec-computer.com

Another company that has its hand in many different technologies, NEC offers a line of handheld computers. The MobilePro 800 is a CE device in a larger form factor, reminiscent of a sub-notebook.

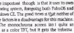
- The MobilePro 800 uses Windows CE professional edition for greater functionality and more software (including "pocket" versions of Microsoft Office applications)
- Input is a combination of a nearly full-sized keyboard and a stylus. The larger keyboard makes the MobilePro very easy to use on the go
- It has 10 application launch buttons on the keyboard, which also turn on the device. It has five utility buttons to the left of the display and five user-definable buttons to the right. All of these help make the 800 very powerful and easy to use
- With a large 800x600 passive-matrix display, the MobilePro 800 features the largest screen we looked at this month and is well-suited to more involved work than many other CE devices, especially when paired with the larger keyboard. Quality-wise, the passive display isn't as good as a TFT display but should be adequate for most circumstances.
- It includes both a compact flash card and a PC Card slot, for extra storage or adding hardware devices. A USB port adds even greater hardware add-on options
- It has a built-in 56Kbps modem
- It has an infrared port for communicating with other infrared-enabled CE devices and computers.
- A VGA port is included on the back of the machine, which, with the included adapter, allows the 800 to be hooked up to an external monitor
- It is powered by a removable lithium ion battery, which is recharged every time it is plugged in.
- The 800 has a built-in microphone and speaker for voice memos, and includes a headphone jack for better audio output.
- It has 32 MB of onboard memory, which offers a lot of space for the more serious user

Without a doubt, this was the nicest handheld unit we looked at this month. It has a large screen, good keyboard, lots of onboard memory, and a ton of other features, from a USB port to a 56Kbps modem, included VGA port and more. Users may still want to check that the passive display is adequate for their needs, especially considering the higher price of this model. For those who like the display, it's a remarkably full package in a very small design, and would make an excellent alternative for a full-fledged notebook.

Psion Series 5 mx
Suggested retail price: $809 (converted from US$549)
http://www.psionusa.com

Although U.K.-based Psion isn't as well-known on this side of the Atlantic Ocean, North American fans are totally devoted to its line of handheld devices that run on Psion's easy-to-use proprietary operating system, EPOC.

- Psion handheld devices use the EPOC operating system, which crosses the power of Windows CE with the clean look and ease-of-use of the PalmOS. It takes time to learn, but quickly becomes second nature. The EPOC package includes a word processor, a spreadsheet application and more
- Input is via a stylus and keyboard. The case folds open, and the keyboard slides out about an inch, giving the Psion a larger form factor when opened. It has three slight drawbacks, however: unlike other models that fold open, the screen cannot be tilted to suit the user's needs. It's either all open or all closed. More problematic, however, is the open space under the bottom of the keyboard after it slides out, which allows the keyboard to flex slightly, causing the spacebar to sometimes function improperly. The last potential problem is that the keyboard is non-standard: many punctuation marks and symbols don't have a dedicated key, forcing users to remember combinations of function keys and standard keys to create them.
- The screen is a 640x240 monochrome display, making it more suitable for serious work than palm-sized devices, while not guzzling battery power like color screens. (Admittedly, this drops its cool factor down a notch, but it's a small price to pay for the amount of runtime the user can get out of two standard AA batteries, which power the machine.)
- It has an infrared port on the back for communicating with other Series 5 handhelds. It can also establish a connection with compatible cellular phones, and use this to log on to the Internet.
- Users without compatible cellular phones can attach to a PC Card modem using a special adapter, which is sold separately.
- The compact flash slot offers extra storage
- The Psion has a built-in microphone and speaker for taking audio memos. Three external buttons allow the user to launch the audio record feature even when the machine is snapped shut.
- Comes with 16 MB of onboard memory



Although it has a clamshell design similar to many other handhelds, the Psion is different in a few key ways. The first is that its screen is monochrome when others are using color. More important, though, is that it uses its own operating system, foregoing both PalmOS and Windows CE. The good news is that neither of these factors is a disadvantage for this machine.

The monochrome screen isn't quite as cool as a color TFT, but it gets the information across just as well, with lower power usage and at a lower overall cost. And while the EPOC operating system isn't quite as compatible with a Windows desktop as CE or as widespread as PalmOS, it's a very easy and powerful way to interact with the device. Add that to the Psion's infrared compatibility with certain cell phones and modems, and you can see why Psion has devoted fans.

Continued on page 48

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Continued from page ***46***

Sharp Mobilon HC-4600

Suggested retail price: $1 199
http://www.sharp.ca

Although the majority of Sharp's products reside in the consumer electronics field, it has a number of personal computing products, including its Mobilon line of handhelds.

- The Mobilon uses Windows CE and features "pocket" versions of Microsoft Office applications
- Input is via both stylus and keyboard. The keyboard makes it easy to do more serious work, although the smaller keys may be uncomfortable for some users. The keyboard features seven application launch buttons that work while the machine is powered on
- The 640x240 passive-matrix display is suitable size for doing more serious work. While it isn't as good as a TFT screen, it should be adequate for most circumstances.
- The Mobilon includes 16 MB of onboard memory, which is expandable to 32 MB
- An infrared port allows the Mobilon to communicate with infrared-enabled CE devices and computers.
- It has a built-in 33.6Kbps modem.
- A built-in microphone and speaker can be used for dictating audio memos. External buttons allow memos to be recorded, even when the machine is closed and powered off
- The Mobilon uses a rechargeable NiMH battery which is recharged when it is plugged in
- The device connects to a PC via serial interface
- A PC Card camera unit can be attached to it. It is available with the Mobilon for $1 489, or is sold separately for $899

As handhelds go, the basic version of the HC-4600 provides pretty much everything other CE devices do. What makes the Mobilon line more attractive, however, is the ability to add a digital camera for just a few hundred dollars more. For those who want to take pictures on the go, but don't want to haul around both a handheld and a digital camera, this may well be the solution. However, using the digital camera puts a heavy load on the battery, shortening its life to about 15 to 20 minutes.

Sharp has two other CE-powered devices in its lineup: the Mobilon Pro PV 5000, which is closer in size to a mini-notebook and features a full VGA screen, and the TriPad PV-6000. The latter has a unique hinging mechanism on the screen, which allows it to be used in three ways: as a standard clamshell notebook, as a writing tablet when the screen is folded over flat against the keyboard, and in an easel mode, with the screen pulled forward like a tent card.

Editor's note
We contacted LG Electronics (http://www.lge.ca) about its Phenom handheld, and Philips (http://www.nino.philips.com) about its Nino 510, but we were unable to get units from either manufacturer in time for this review.

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Editor's Choice

3Com Palm V
The Palm platform remains an incredibly easy-to-use handheld solution and with this new slimmer model it's easier than ever to tuck away. For those who like to travel light this is an attractive and powerful solution.

NEC MobilePro 800
On the Windows CE side it doesn't get much better than this unit: large screen, lots of memory and a roomy keyboard. All of this adds up to a machine that's easy to use and powerful but still light enough to carry with you wherever you go.

One to watch:
Handspring Visor Deluxe
The Handspring is a very attractive variation of the Palm, with the versatile Springboard slot and a competitive price. Since it will not be available through retail outlets until sometime next year, we can't give it an Editor's Choice award. It's definitely one to keep your eyes on, though! ❑

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Webifying bricks and mortar

Traditional business faces a tough fight from Internet upstarts

By Ross MacDonald

How did eBay, seemingly out of nowhere, become the centre of activity for auction lovers worldwide? Does it bother any of Amazon.com's book buying customers that they can't physically go to the store? Look at almost any business category and you'll find an Internet-based vendor clamouring for a share of customers' minds and dollars.

It wasn't until leading international companies lost significant mindshare to new Internet-based upstarts that the business world began to realize the Internet had become an inherent and necessary component of business infrastructure.

"There are some unique issues to deal with in the electronic world," says Charles Wang, founder of the $5.6 billion Computer Associates. "If you think about it, why is it that the world's largest stockbrokers [brokerage firms] or the largest bookstores aren't the largest presence on the Internet with those same offerings?"

Wang suggests that the Internet has levelled the playing field and allowed others to come in and start all over again. "The established companies never leveraged what they had. If they had the philosophy that the Internet is another channel, another distribution vehicle, then they should have remained the leaders.

"But they didn't. They thought 'this is a different world. We have to get people to specialize in this world.' So philosophically they missed it."

David Hainline, executive vice president of Chapters Online, clearly agrees "If you look to the United States, you can see several examples of where that has happened. Barnes and Noble [a retail bookstore chain] was one of those. Toys R' Us was one of those Online retailers surprised [both of those traditional retailers] with what they could do very quickly. But both those companies have now seen the potential and are moving aggressively to get themselves online."

Gary Meehan, vice-president of Canadian operations for Onvia.com (formerly MegaDepot, an online technology products retailer), cites a recent Arthur Anderson survey of more than 200 Canadian business leaders, which says most of them acknowledge the Internet as a business tool but not paradoxically, as a top priority.

This is a dangerous, and possibly a fatal oversight, because the Internet transforms not only how a company does business, but also who it competes with.

"It's shrinking the world," says Wang. "For the first time from a business perspective, you don't know who your competitor is and you don't know where he's coming from. And if you're not really sharp and don't stay on your toes, you're going to get blindsided by somebody that's halfway around the world that you don't even know.

> While the business leaders are saying, 'It's not our top priority but we're slowly working on it,' 90 percent of Canadians who are buying on the Web have said they'd prefer to buy from Canadian sites but there aren't enough of them
>
> — *Gary Meehan, Onvia.com*

"If you look at the large bookstore companies and investment companies, they were blindsided. It just hit them all of a sudden 'Who is this Amazon.com? They don't even have one store!' Also you have E*Trade Ameritrade, Charles Schwab etc. [online stock brokerages] They all called it right from the beginning."

Meehan says companies often get blindsided because of the sensibilities of senior management. They simply don't understand the Internet and its capabilities well enough:

*Continued on page **52***

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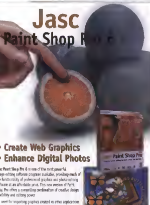

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Webifying bricks and mortar

Continued from page ***50***

"In some ways it's a generation thing. But it doesn't need to be."

He suggests that if more senior managers were more involved with the Internet on a personal level—shopping, researching or simply pursuing a personal interest through surfing the Net—they might reach a greater understanding of what it can do. And that would accelerate a greater integration of IT into their corporate infrastructures.

> There's a future for both online and bricks and mortar because they offer the shopper different experiences
>
> —*David Hamline, Chapters*

"I think the thing that CEOs [chief executive officers] must do is to get themselves a partner in the CIO [chief information officer]," says Wang. "What the CEO has to do is make sure the CIO is philosophically in sync with him [or her] and can basically serve as a mediator between what technology has and what you can do with it."

Top line, bottom line

A second significant barrier to wider adoption of the Internet in the business world is perceived costs. Industry pundits often speak of a hesitation on the part of many senior managers to make the expenditures necessary to create a Web site for selling goods and services or to establish Web-based IT infrastructure within the company. In addition, they have disproportionate concerns about the return on investment and total cost of ownership.

"Everybody is still thinking in terms of return on investment ... and that's a very valid thing," says Wang. "A lot of CIOs tell me 'We're going to put your infrastructure in, Charles. What's my return on investment?' Well, it depends on what you're going to do with the infrastructure. You can do many things. They say 'Yeah, but I have to lower the total cost of ownership.' And I say, 'That's admirable. That's very good.' But let's say you are in a company spending five percent of revenue on IT. Let's say you're really good and you drive that down by 10 percent so you're spending 4.5 percent. That's not bad. You're a hero. Your CFO will give you a raise and so forth.

"But what if you could take the same IT and add 10 percent to the top line? Building business is about creating wealth, creating value, not about saving money. Businesses have to run an efficient operation, there's no question. ... We're talking about creating value, adding to the top line—this is why it is such an exciting marketplace right now."

Meehan reflects Wang's commentary, saying companies can't afford not to do business on the Internet. "I think cost of ownership is a red-herring," he adds.

Customers in waiting

Meehan notes that in the Arthur Anderson survey, the Internet did not even rank among the top five priorities of the Canadian business leaders polled. Ironically, Meehan says, the respondents' top five priorities—which included customer service—were all things the Internet could help them achieve.

Meehan cites further studies that show Canadians are anxious for Canadian business to get online: "While the business leaders are saying, 'It's not our top priority but we're slowly working on it,' 90 percent of Canadians who are buying on the Web have said they'd prefer to buy from Canadian sites but there aren't enough."

At Chapters, Hamline notes that Internet usage is much higher in Canada than in the U.S. but that we buy less online due to a lack of Canadian shopping sources. "The information coming from our customers was that if there was a Canadian alternative where goods were priced in Canadian dollars and shipped within the country and tailored to Canadians they would shop there."

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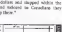

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AMD K6-II 350MHz	$71
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128MB PC100 SDRAM	$445
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Rage Magnum 32MB AGP	$170
All in Wonder 128 16MB AGP	[illegible]
Xpert 98 16MB AGP	$113
Xpert 99 8MB AGP	$84
Xpert 98 8MB AGP	[illegible]
Xpert 2000 32MB AGP	$179
Xpert@Play 98 8MB AGP	$72
Matrox	
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G400 32MB AGP TV OUT	$271
Diamond	
Viper V770 32MB AGP	$215
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Stealth III S540 16MB AGP	[illegible]
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[illegible] TNT2 32MB AGP	$229
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Asus [illegible] 3000 [illegible]MB	$174
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Yamaha 64 [illegible] Value Kit SCSI	$491
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Altec Lansing ACS 45	$115
[illegible] Speakers	[illegible]

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Acer 56K V.90 ISA	[illegible]
Supra Max 56K V.90 PCI	[illegible]
GVC 56K V.90 PCI	[illegible]
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IBM 22GB 7200RPM UDMA	[illegible]
IBM 27GB 7200RPM UDMA	$501
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Quantum 5.4GB KA UDMA	$186
Quantum 5.1GB KA UDMA	[illegible]
Quantum 15.6GB KA UDMA	[illegible]
Quantum 18.2GB KA UDMA	[illegible]
Quantum [illegible] CX UDMA	[illegible]
Quantum [illegible] CX UDMA	[illegible]
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Fujitsu [illegible] UDMA	[illegible]
Maxtor 4.3GB UDMA	[illegible]
Maxtor 5.4GB UDMA	$162
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Maxtor 17GB UDMA	[illegible]
Maxtor 20GB UDMA	[illegible]
Maxtor 27GB UDMA	[illegible]
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Unistar Micro Technology Inc Unistar Micro Technology Inc

Meehan says a letter published recently in a Canadian daily newspaper shows why cybershopping can be such a frustrating experience for Canadians. The writer said he'd purchased a piece of software for US$19.95 from a U.S Web site but by the time it got to him—with currency conversions, shipping and handling, and currency conversions on the shipping and handling etc.—the total bill was $102.50

"If he'd bought it from us" says Meehan, "he would have probably paid about $30 with the exchange. We would have shipped it free and he would only have had to pay GST."

Web lifestyle

David Daniels manager of Internet platforms for Microsoft Canada says "businesses moving online is the thing that will propel them into the new millennium. There is going to be huge competitive pressure on all businesses to go online. Not just to have some sort of brochure on a Web site but to have a fully functional, transactional site. Consumers are more and more attracted to what we at Microsoft call the Web lifestyle."

This "lifestyle" boils down to consumers demanding the ease of access to—and interaction with—the Web in the same fashion they access current technologies such as television, telephones and even automobiles.

"Consumers want everything related to their life [available] on the Internet and one of the key pieces of that is that they want to shop—they want to be able to buy. And consumers are getting more educated and demanding. Potential suppliers have to keep in mind that more and more consumers are shopping, banking, doing research, making travel bookings online, etc., so it's a logical extension that these consumers are going to want to buy from you. But, if you don't have a Web site they'll just go somewhere else."

By extension, Hainline anticipates a harmonious blend of online and traditional retailing as the future trend. Already all Chapters stores include Web kiosks for customers to track down titles in the store and to order titles that are not in stock.

"We view [the Internet] as another way for the customer to simply buy goods and services. I think there's a future for both online and bricks and mortar because they offer the shopper different experiences," Hainline says.

He notes, however, that a smaller number of Web sites are garnering an increasing share of online shopping traffic. This can be largely attributed to the fact that, as with bricks and mortar stores, customers come to

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know trust and shop at specific Web sites This suggests businesses have a fixed amount of time to get up and running on the Net before a great share of consumers establishes its buying patterns and is no longer interested in surfing for alternative purchasing sources.

"It's going to be really exciting to watch as conventional businesses go on to the Web and see that all of a sudden more people are buying from them in a virtual sense than they are in their physical locations," says Daniels. "I think you're going to see a kind of tidal wave when these businesses wake up and realize 'Oh my God! Forty percent of my revenue is coming from this channel!' That's something that will happen within a couple of years."

The business challenge

"Today most companies use computers to account for what had happened," says Charles Wang. "You count faster more accurately, you keep better inventory and so on But they're not using this technology to enable tha business, to do things way beyond accounting for what had happened. More than half of CIOs today still report to CFOs"

But Microsoft's Daniels says he can already see Wang's advice toward collaboration being heeded He notes that there is a great deal of interest in IT and the Internet at very senior levels of management in the corporations he deals with "The CEOs the CIOs the chief technology officers are all absolutely involved. And it's so quick how things happen When these businesses approach us they want to move really fast They want to deploy in 60 days. They want to make sure that what they deploy is scalable They want to make sure that what they deploy is flexible And they want to make sure that what they deploy is robust. And they want to do it now now now"

Between facilitating the online selling of goods and services and the application of the internet as an intimate component of company infrastructure modern businesses must deal with the paradox of employing increasingly complex IT in an attempt to enhance and simplify the logistics of doing business.

"This is a fundamental shift" Wang says. "To take this IT and use it to enable business, not just to account faster, that has to take place. And it will Because the ones that do this are the ones that will survive" ❑

Exploring digital imaging

NB—At this recently redesigned Web site, Tom Chambers brings over 20 years of photography and visual arts experience to the Web with over 30 exhibitions in the United States Zimbabwe and South Korea. He is currently pursuing digital manipulation as an art form under the namesake of New Directions As a part of this Web site he is providing gallery space for other photographers and artists who are working in the same fashion. This site has some great images and anyone with an interest in the visual arts should enjoy it.

http://members.tripod.com/~chambers/

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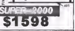

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Canadian kids using Net for homework

By Tom Venetis

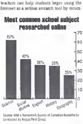
Canadian kids are spending about a third of their homework time surfing the Web for research. This was one of the findings of Intel's recent *Homework Survey*, conducted by the Angus Reid Group, and involving some 431 Canadian households. The *Homework Survey* grew out of a study last year by Intel that looked at why people were purchasing computers. In that study, the main reason people gave for buying a PC was to help in the education of their children.

"There is a certain feeling among parents that the computer is a resource," says Doug Cooper, Canadian marketing manager for Toronto-based Intel of Canada Ltd. Not only are parents buying PCs for their kids to get a leg up in school but they are also buying them to help kids get onto the Internet, he adds. The study found 84 per cent of parents said giving kids access to the Internet was beneficial to their learning ability with 80 per cent saying the Internet had a positive impact on their homework.

Students between the ages of 12 and 17 spend some 7.6 hours a week on homework, with 3.4 hours per week on the computer getting academic work done and 2.2 hours surfing the Internet to do research for assignments and projects.

Cooper adds the results will be especially welcome to both parents and teachers alike. Parents can take an even more active role in their child's education by helping them use the Internet to get their homework done and teachers can help students begin using the Internet as a serious research tool by recommending educational and informational sites.

Most common school subject researched online



Source: Intel's Homework Survey of Canadian households conducted by Angus Reid Group

"One of the things that has come out of the survey is parents really identify Internet access as a mechanism that is making their kids think through research and force them to think like a researcher," Cooper continues. "It is a valuable skill." ☐

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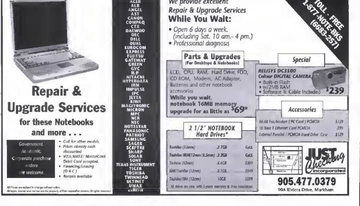

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Business briefs

Lotus and AOL do Instant Meeting
Lotus Development Canada has announced Lotus Sametime 1.5 enterprise ready real-time collaboration software that's also compatible with AOL Instant Messaging.

Recently TCP attended the Canadian rollout of Lotus Development's new Sametime 1.5 software at Lotus headquarters in Toronto.

Sametime 1.5 is a real-time messaging, meeting and collaboration solution for Lotus Domino servers, and this latest version of Sametime is also compatible with America Online's popular instant messaging software.

AOL's instant messaging software has become a huge hit with millions of Internet users, as it allows easy, instant chat between users, combining many of the benefits of email and voice telephone. AOL instant messaging capability is currently available free to over 35 million Internet service subscribers.

The interoperability of AOL Instant Messaging with Lotus Sametime suddenly creates a new dynamic in Internet-based communications, which is likely to quickly redefine the way that communications over the Internet are conducted.

Bethann Cregg, senior manager of communications product marketing at Lotus demonstrated Sametime 1.5. Describing it as "real-time collaboration that's fit for business," Cregg outlined Sametime as a secure, controllable version of instant messaging, designed to run from a Microsoft Windows NT server to Lotus Notes clients.

Shipping within 30 days of the announcement, Sametime 1.5 will be available in 16 languages, and will cost $7,550 per server, with a $30 per user licence fee. It will be distributed and supported by Lotus Passport business partner and IBM solution providers. Sametime allows for one-to-one messaging, group meetings, electronic whiteboard, and shared application display and editing. It's also designed to be customizable to individual enterprise's needs, with development tools including Java and ActiveX components.

With Sametime 1.5, Lotus is beginning the process whereby industrial strength, real-time messaging and collaboration will become part of online life.—JE

Lotus, http://www.lotus.com

Amazon.com opens up
NEW YORK (NB)—Amazon.com has announced plans to let any company sell merchandise through its popular Web site. According to several press reports, Amazon.com announced its zShops program, which will let businesses—from major manufacturers to small companies—sell virtually anything through Amazon.com.

Jeff Bezos, chief executive of Amazon.com, said during a press conference that the company wants to help people find "anything online."

Amazon.com also said it will launch a new Web-based search engine that will help Netizens with their shopping.

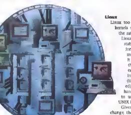
Amazon.com, http://www.amazon.com

Networks and beyond

A three-way race for network OSes

This is the age of the network. A computer that isn't connected to other computers in an office—and to the world at large via the Internet—is seen as impoverished, regardless of the speed of its processor or the amount of its RAM

By Issie Rabinovitch



As the decade comes to an end, the network is a staple of most offices that have more than a few computers. Simple connectivity, file and print sharing, and centralized backup are a given. These continue to be core benefits of networks, but there's also information sharing, communications, and collaboration. In today's business climate, a network without some form of email is unusual.

As with productivity applications, like word processors and spreadsheets, the choice among network operating systems (NOSes) is smaller than before. Banyan Vines, Artisoft Lantastic and IBM OS/2 still exist, but have ceased to be important in the small business market. Today there are three major choices: Microsoft Windows NT/2000, Novell NetWare and Linux.

Windows evolution

Windows NT Server 4.0 was released in 1996, but once the many Service Packs, hot fixes, and Option Packs that have been released since its debut are applied, the resulting NOS is much different than the original. The next upgrade to NT, Service Pack 6, is currently in beta, but the big news from Microsoft is the imminent release of Windows 2000 Server.

Although predicting the launch date of a Microsoft operating system is as risky as betting on professional boxing, it appears that a late 1999 release is very likely. Windows 2000 Server is the product that was at one time going to be called Windows NT Server 5.0. This will be Microsoft's most important product launch since Windows 95.

Linux

Linux too is moving rapidly. New kernels seem to be appearing at the rate of about two per year. Linux is already an extremely stable environment, and performs well on comparatively modest hardware. However, it lacks support for features that are important in the enterprise, such as clustering support (none), SMP (limited) and RAID (limited). It needs to support more hardware, and to be friendlier to users who don't have a UNIX background.

Given Linux's rapid rate of change, there's no doubt that these and other features are on the way. A case in point is when I returned home from the Comdex technology conference and exhibition last November with Caldera's OpenLinux 2.2, which had just been released. At the end of the installation from CD-ROM, I had a working copy of the NOS, which I then began to explore. I immediately noticed that I didn't have access to my CD-ROM drive. I assumed that since Linux was aware of the drive during the installation routine, it would still be aware of it at the end of the routine.

The amazing truth I discovered was that this was not so. To make matters worse, the documentation didn't tell me how to remedy this. I found the answer in an Internet newsgroup, but not without effort. That and other unfriendly aspects of Linux are already a thing of the past in some distributions, and there's more good stuff to come.

Novell NetWare

Novell's flagship product is NetWare 5.0, and is now about one year old (an upgrade is expected next year). During 1999, Windows NT Server sales exceeded NetWare sales, but Novell still claims to hold

Continued on page 58

A three-way race for network OSes

Continued from page **57**

the lead over Microsoft in terms of its NOS installed base. Microsoft claims the number of copies in use of Windows NT Server exceeds the number of copies of NetWare. I find that claim plausible, but I don't think Novell is wrong, either.

This is because many computers running NT Server are used as application servers, running server-based applications like SAP R/3, Lotus Domino/Notes, Microsoft Exchange, Oracle databases and RightFax fax server. NetWare is invariably used as the NOS. Thus, it is quite possible for there to be more users on NetWare networks than Windows NT networks, but more computers running Windows NT Server than NetWare. It's rare for both sides in an argument to be right, but I believe that's the case here.

There are two major reasons for this state of affairs. The first is that NetWare is a very good NOS, with the industry's most tested and capable directory service, a set of features increasingly important to networks of all sizes. The second reason is that Windows NT is a flexible and well-supported platform for developing and running server-based applications, while NetWare is not.

Strengths and challenges

Linux resembles Windows NT in that it can be used as a desktop operating system as well as a server. It is a good application server, and can function as an NOS again like Windows NT. Linux is more mature as a server platform than as a desktop OS, at least at this stage of its development. As a server, its market share is a distant third, but it's growing faster than each of the other two. According to Intel, Linux accounts for 17 percent of all server OS sales. Technology industry analyst IDC predicts Linux sales will increase twice as fast as the category.

One by one, the reasons for not using Linux as a server are being addressed. Computers with Linux installed can be purchased from IBM, Dell, and Compaq, among others. Support contracts can be purchased. There's finally "someone to sue if things go wrong," or at least to blame. The largest remaining hurdle for Linux to overcome is lack of familiarity and knowledge.

Linux is easier to deal with today than 12 months ago, but it is still a handful for someone with only NetWare or Windows experience. Linux will continue to get easier to work with, and more people will acquire the necessary skills. Linux is being taught in universities, and I've noticed a proliferation of one- to three-day courses, online courses, and books devoted to Linux.

However, no one should ever underestimate the power of Microsoft's public relations department. All of its resources will be arrayed behind Windows 2000, since the success of that family of products is assigned a high level of importance. However, Microsoft has been dealt a more difficult hand than ever before.

Windows 2000 will be launched in a challenging environment, one that has grown weary and wary of the upgrade process. The level of proof demanded by most businesses to demonstrate the need to upgrade to Windows 2000 will be very high indeed. It may be a year or more before there are many compelling server-based applications that require Windows 2000 Server. On the other hand, there will be numerous applications that run properly on Windows NT Server 4.0 but require an upgrade to work on Windows 2000 Server.

When Windows 95 arrived, requiring much more RAM than Windows 3.1, Microsoft was fortunate that forces conspired to make RAM available at a low price. Windows 2000 Server, which Microsoft now says will require a minimum of 256 MB of RAM, will probably be launched at a time when memory prices are very high.

RAM prices have recently quadrupled in a span of less than two months. They are still rising, as I write this column. In fact, they are changing from one day to the next and sometimes more than once a day. Expert observers are predicting that prices will remain high for months to come. It is into this difficult environment that Microsoft will send its extremely RAM-hungry operating system.

A real fight

I find many things interesting about this three-way competition among network operating systems. First and foremost, this really is a competition. All three contenders have unique strengths, and all three have much to offer. This is a story that is still being written, and I don't think anyone knows how it will turn out.

My opinion, for what it's worth, is that at this time next year, Linux will have made great strides, NetWare will have stood its ground, and Windows 2000 will have done well enough to maintain the momentum created by enormous expectations. ❑

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Symantec automates anti-virus battle

By Jeff Evans

Symantec Corp., which along with rival Network Associates accounts for most of the PC antivirus software sold in the world, claims that a new generation of computer viruses has spawned a need for enhanced virus analysis and vaccination technology. Increasingly, new computer viruses detected by PC users are sent instantly via the Internet to anti-virus labs and "fixes" are generated in minutes, rather than hours or days.

In a briefing to Canadian technology media in September, Chris Monnette, general manager of Symantec Canada, and other Symantec executives outlined the company's plans to make interacting with the connected world "safe, secure and simple."

An important element in Symantec's strategy is its Scan and Deliver (S&D) technology which automatically emails suspected virus code to Symantec's anti-virus automation facility.

According to Symantec data, the technology enabled nearly 30,000 new viruses to be sent to Symantec's anti-virus labs over a recent 11-month period, compared to about 2 600 new viruses that had been sent in the 20 months prior to S&D technology being deployed.

In cooperation with Symantec's strategic partner IBM, many viruses are then turned loose in a "virtual PC" software program running on an IBM AIX workstation. Viruses are "provoked" to show their features and release dates in this safe environment. In many cases the software to detect and eliminate them is automatically generated. The new fixes are then made available via Symantec's anti-virus software Web site for download to Symantec customers.

According to Symantec, the anti-virus software market has been energized by viruses such as the so-called Melissa and Thursday varieties, which have the potential to seriously disrupt business computer networks. Information technology managers now realize effective anti-virus solutions are critical to keeping enterprises up and running in a wired global economy. ❑

Symantec http://www.symantec.ca

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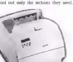
Lexmark shares digital office vision

By Sean Carruthers

Ask 10 people to imagine the "digital office" and they'll give you 10 different answers. It's such a nebulous concept that it still has a lot of room to grow.

What more people are realizing about the digital office, however, is that it's not quite the "paperless office" many imagined just a few short years ago. At the time, more and more documents were being created digitally, so eliminating hard copies completely seemed a logical and achievable goal.

Instead of running off hundreds of copies of a document for distribution, you would simply email the document and allow users to print out only the sections they need.



Optra-T 616

Instead of sending around memos on sheets of paper, you would email them.

In theory this would cut the amount of paper use down to next to nothing. In reality, while the size of print jobs dropped over the last few years, overall paper use rose. Printing out multiple copies of hundred page documents is becoming rare, but individual users are printing out things relevant to their own work, like contact lists and email.

Because of this trend toward short-run print jobs, businesses are starting to question the need for expensive high-capacity photocopying solutions. Printer manufacturer Lexmark says its new line of printers addresses this change and offers a unique solution to the requirements of the new digital office.

Lexmark's answer

Based in Lexington, Kentucky, Lexmark was formed from IBM's printer division when it was spun off in 1986. The first printer rolled off its line three years later, and according to Tim Craig, vice-president of new products for Lexmark's business printer division, at that point they were five years behind the competition in terms of price/performance. Today, he says, they are very competitive.

"How do you go from five years behind to ahead in such a short time?" asks Craig, rhetorically. "Simple: you go faster than anyone else."

While photocopier manufacturers are starting to include laser printer and fax functionality in some of their models, Lexmark feels that this may be the wrong angle to attack the needs of the new digital office

That seems to be a principle guiding Lexmark's digital office strategy. The company says it can bring its products to market faster than its competitors because it owns all of the technology inside its products. "We are the only company in the industry ... on the planet, in fact, that has control of the entire printing system in one location," says Craig. Lexmark says it plans to use that advantage to offer a solution for the whole office, big or small.

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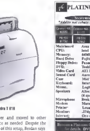
photocopy machine, with laser printers scattered around the office. While manufacturers are starting to include laser printer and fax functions in some of their photocopiers Lexmark feels this may be the wrong approach to solving the problems of the new digital office. According to George Berdan, manager of digital strategies for Lexmark Canada "It isn't just how you smash all these technologies together, it's how you use them."

In its version of the new digital office, Lexmark's envisions a number of laser printers scattered more evenly throughout the office All are manageable from a central location, and expandable depending on the current or future requirements of the company Instead of a central photocopier, a modular scanning unit or fax station could be attached to any existing laser printer and moved to other printers in the office as needed Despite the added functionality of this setup, Berdan says "printing is still the number one priority"



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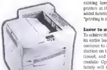

Optra W 810

Easier to use, manage

To achieve this vision Lexmark has refreshed its entire laser printer line Although it will continue to support all current models production on the Optra S line is being discontinued, and will be replaced by the more modular Optra T series. The new Optra T family will feature the same printer driver across the entire line, and all printers will use the same toner cartridge

"This is not some engineering nicety" explains Craig "This has real value to the user" In an office environment that uses only members from Lexmark's new printer

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family, costs will be kept low because users and IT staff will only have to become familiar with one driver and will only have to keep one kind of toner cartridge in stock, he says

Additionally, all printers in the Optra T line will be expandable using the same paper drawers which can be added to the bottom of the printer stack as required, without changing its footprint. The printers will have expandable output options, including a five-bin mailbox (for a total of 500 sheets) and an 1,850-sheet output stacker. By standardizing these options across the Optra T line, input drawers and output bins can be swapped as necessary among machines in an office. All of the printers in the family will ship with MarkVision printer management software for easier administration of Lexmark's printers, even from a remote location

Lexmark has added several other new features to the Optra T line including an optional ImageQuick Web SIMM, which provides extended PostScript 3, and makes HTML and PDF formats native to the printer for quicker print times and smaller file sizes. Users can also program a series of bookmarks to be used with the SIMM's pull-printing feature. By selecting an item from the bookmark file users can get the printer to go out onto the Internet and retrieve a document without even having to go to a PC. For users who regularly have to print out forms or constantly update items like rate sheets, this is expected to be a popular feature. Other new SIMMs will include one that makes TIFF files native (cutting down the size of files sent through the network and increasing print speed) and one that will allow easier scaling of barcodes

A key component in Lexmark's new digital office strategy is the OptraImage module, which adds copy, fax and scan capability to any available network printer. The ability to add this capability to any Optra T printer is key in shifting offices away from photocopier technology and towards the laser printers that offices would have regardless of any photocopier solution in place

According to a recent study by IDC, printers are anywhere between 49 and 62 percent less costly than photocopiers. This figure takes into account the lease of the photocopier, coupled with toner usage packages, maintenance costs and consumables. By phasing out the photocopier, Lexmark claims that its vision of the digital office can help companies better meet their document needs and at a lower cost, too ❑

Mystery of the human brain

NB—This is an informative educational Web site designed to be a fun, simple and interactive introduction to information about the human brain. From the sections of the brain to how drug can destroy it, this educational site describes the brain and how it affects our every day lives.

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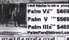

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Networks and beyond

You expected slower and harder?

Faster, friendlier networking products give new life to LANs

By Issie Rabinovitch

Network hardware, it must be stated up front, is a decidedly unglamorous field. Users care only that the network performs. Hardware, like cables, network interface cards (NICs), hubs, switches, print servers, and the like, are apparent and of interest to most users only when they malfunction. Otherwise, they are an issue for network administrators and managers.

Proceeding on the premise that knowledge is a good thing, and that readers of this publication, regardless of their job functions, have an above average interest in technology, I am gearing this survey on network hardware towards the interested user and non-technical manager.

The move to Gigabit Ethernet

With so many topics to choose from, I am forced to focus on just a few areas of interest. The first is Gigabit Ethernet, which may start to be important to small business as early as next year. The original Ethernet specification transfers data at 10 Mbps (megabits per second), Fast Ethernet at 100 Mbps, and Gigabit Ethernet at 1,000 Mbps.

Gigabit Ethernet has been around for a few years, but the adoption rate has been slow for two reasons: high cost and lack of complete compatibility with existing technology. With so much in potential profits at stake, it stood to reason that these two barriers would be overcome. Just this summer an industry group approved a new standard for Gigabit Ethernet over traditional copper wires, which is the standard in business networking. Before this development, switching to Gigabit Ethernet required the installation of fiber-optic cabling, a difficult and expen-

Continued on page 67

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17 DAEWOO 285
17 VIEWSONIC E771 305
17" VIEWSONIC E773 305
17 VIEWSONIC G773 [illegible]
17 VIEWSONIC PT771 [illegible]
17 OPTIQUEST Q71 315
17 AYTEK 17200 [illegible]
17 SAMSUNG 700S 308
17 SAMSUNG 700B 378
17 SONY 210GS 0.25 [illegible]
17 SONY 220GS [illegible]
17 SONY 200PS [illegible]
17 PRINCETON 299
17 MAXTY 0.26 285
19 VIEWSONIC E790 649
19 VIEWSONIC PS790 775
19 OPTIQUEST V95 549

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ASUS P2BD [illegible]
ASUS P2-99 180
ASUS P2-99-B 155
ABIT BE6 185
ABIT [illegible] [illegible]
ABIT [illegible] [illegible]
MICROSTAR 6199 PRO 145
MICROSTAR 6119 199
SOCKET 370
ASUS MEW [illegible] 205
ASUS MES-VM 189
SUPER SOCKET7
ASUS P5S-VM 119
ASUS P5A 199
ASUS P5A-A 149
ASUS P5A-B 199
MICROSTAR 5164 109
HOUSTON M741 129

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You expected slower and harder?

Continued from page 64

sive proposition. As soon as products, such as NICs and switches to support the new Gigabit Ethernet on existing high quality twisted-pair cabling, start to arrive later this year and early next year, firms needing greater bandwidth than Fast Ethernet will finally have an affordable alternative. Some of the familiar big names and some newer and smaller names will be entering this market, which Dataquest estimates will grow to US$2.5 billion over the next two years.

It is likely the first wave of products won't be bargain-priced because vendors traditionally want to snag early adopters at the highest price possible. As production ramps up in mid-2000 I expect prices to drop to levels that are attractive to the small business sector. However even at a premium over Fast Ethernet for cards and switches, the ability to use existing twisted-pair cable is big news.

Initially, this won't be a product for the desktop because the existing PCI bus cannot handle Gigabit speeds. By late next year the PCI specification will be upgraded to accommodate Gigabit Ethernet, but for most businesses, the major use of Gigabit Ethernet over the next year or two will be to link high-end servers to switches.

A name to keep track of is NetGear, a subsidiary of Bay Networks, which is in turn part of Nortel Networks. NetGear was the first to market Gigabit Ethernet hardware designed and priced for the small office market. That was in early 1999. It was designed for fiber only, but copper versions can be expected soon enough. If you are curious about what's coming, go to the Nortel Networks site and see the specifications of the FS518 10/100 switch with Gigabit uplinks and the GS504 Gigabit switch, both shipping products for fiber infrastructures (http://www.netgearinc.com/products).

Another company with interesting products for the small business market is 3Com. In September, it announced a dozen new or enhanced products of immediate interest, under the best-selling OfficeConnect brand. The theme of all of these products seems to be to make it easier than ever for a small business to set up and maintain a network, including a broadband connection to the Internet, without professional help.

These products look more stylish than usual for networking hardware, and have some unusual but welcome features. An ergonomic, one-piece clipping system enables units to be stacked together and the new color-coded packaging and products aren't frills. Wide area networking (WAN) solutions such as the popular OfficeConnect LAN Modem are coded in red. LAN (local area network) solutions such as hubs, switches, and NICs are coded in blue, and print servers and firewalls are coded in green.

This will please even hardened networking professionals. If these products do well, expect the SOHO market to move in the direction of adding more ease-of-use features. 3Com also provides a CD-ROM with wizards to aid in installing and configuring OfficeConnect products.

Internet sharing

Among the new OfficeConnect products are such (by now) pedestrian items as NICs, PC Cards, and 56Kbps modems. More interesting items include:

- OfficeConnect Dual-Mode Cable Modem for high speed Internet connectivity over cable television networks.
- OfficeConnect LAN Modem (in 56Kbps and ISDN models) combines a four-port Ethernet hub, modem and router technology to enable multiple users to share a single Internet connection. It now includes fax capabilities and dial-in access for remote access applications.
- OfficeConnect Internet Firewall 25 protects a LAN from unauthorized access and prevents denial of service attacks from the Internet. It has two Ethernet ports and supports up to 25 users. A more advanced version supports up to 100 users and allows Web or FTP servers on a LAN to be accessed from the Internet without exposing the network to attack.

Another significant 3Com product that is not part of the OfficeConnect line is the NBX 100 LAN Telephony Solution for Small Businesses. This too may indicate a direction for SOHO networks. I haven't tried it, but it is supposed to be easy to use and configure. With this system in place, a business would have a single IP-based network for voice and data. This should lead to a reduction in costs, and the ability to implement the kinds of advanced telephony features that few small businesses can afford today.

Continued on page 69

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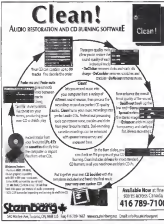

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ON THE GO

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A lot has been written recently about the proliferation of technological goodies available to business-class airline passengers while they are in the air. From the comfort of your seat, many airlines now offer you the ability to plug in your notebook computer, make long-distance calls and even connect to the Internet. And that's in addition to providing each business-class passenger with individual video and music entertainment systems.

In many cases, however, travellers spend as much time waiting around in airport lounges as they do in the air getting to their destination. And, until recently, these locations have been relatively technology challenged. Simply finding a free wall socket to plug in your notebook computer and a telephone that works with your modem was challenge enough in a typical airport lounge.

All that is starting to change, however. In the past couple of years, business-class lounges have become so well-equipped that they offer the technology to work—as well as play—while you wait for your plane.

Canadian Airlines' new domestic business-class lounge at Vancouver Airport, for example, includes not only all the facilities you'll need to do the mundane business tasks such as faxing, emailing, and printing, it also has lots of high-tech toys. There's a computer-based golf simulation game (often the only way to play golf in this rain soaked city) and a cluster of Internet-connected personal computers. These PCs are also equipped with a range of entertainment software, including Microsoft Flight Simulator, which allows you to crash an on-screen plane then wander over to the lounge bar and have a tall, cool one to soothe your jangled nerves.

The lounge even has a high-tech arm-

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chair with a great view of the runway and—when it's not raining—the mountains and ocean The chair offers a computer-controlled massage with the built-in "fingers" to rub the tension out of your back.

According to Sara Crockett director of product planning at Canadian Airlines, the demand for high-tech facilities in lounges is not limited to individual business or entertainment purposes She says there is also demand for the space—and technology—to hold meetings in these locations.

"We have increased the number of board rooms to meet the demand for people who want to hold meetings in the lounge," she says "We are finding that executives want to be able to bring in their regional managers for a meeting at the airport between flights, which saves them time and money And these board rooms are equipped with the business equipment—such as plug-ins for computers, a VCR and television "

Joanne Ward director of design and product management at Air Canada, reports that her company has undertaken similar initiatives She says that through the development of business centres at the lounges Air Canada can now offer "everything you would need from a business standpoint."

She also reports a rising demand for conference rooms with appropriate facilities, and says Air Canada is meeting that demand in its new lounges. Air Canada is also adding high tech goodies to help passengers have more fun in the lounges At its Vancouver lounge, for example the company has developed an "audio booth," in conjunction with Sony, to allow passengers to listen to CDs in solitude.

Having visited a number of these lounges this reporter can attest to the fact that these amenities can make the business of waiting for a plane all the more pleasant Perhaps the only drawback is that it makes the prospect of sitting in a tin can at 30 000 feet for four hours (or more) all the less pleasant ❑

You expected slower and harder?

Continued from page 67

Wireless still costly

3Com has a wireless Ethernet product line in the works as do other vendors. When I saw the 3Com technology demonstrated at the Comdex Canada technology conference and exhibition in July I was impressed by its potential, but disappointed by the predicted costs At a reasonable price point this could be a very useful solution for many networking scenarios because it runs at 11 Mbps and can be integrated with a traditional 10/100 Ethernet network Perhaps by the time 3Com launches this product line this fall it will have rethought its pricing strategy If not I think some other vendor will fill the void, because this technology is not unique to 3Com or anyone else.

Pricing strategies are fundamental. It's because of plunging prices that Fast Ethernet has beaten out Ethernet switches are overtaking hubs in popularity and broadband is becoming increasingly prevalent

I think we can expect more of the same In three years, the average small business PC may be connecting via Gigabit Ethernet and the server via Fast Gigabit or faster. ❑

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iMac DV
Special Edition

Apple unveils new iMacs

Following the publication of details and images of the new iMac computers by several news organizations in September, Apple Computer chief executive Steve Jobs "officially" unveiled the line on Oct. 5 During what was dubbed an Apple Special Event, Jobs also announced the release date for OS 9 As the announcements coincided with TCP's press deadline we have included details from Apple's press releases and hope to provide a full story in our next issue —Editors

Apple's new family of iMacs has three members: the iMac (available in Blueberry only), the iMac DV (available in all five iMac "flavors"), and the iMac DV Special Edition (available in a clear Graphite case) Apple says the new models are "faster, sleeker, quieter" and offer even easier access to the Internet All of the new iMacs feature:

- faster PowerPC G3 processors,
- 64 MB memory standard, with expansion up to 512 MB through an easy-to-access door;
- a built-in, 15-inch shadow-mask CRT display
- a Rage 128 VR 2D/3D high-end graphics accelerator chip,
- a sound system designed in collaboration with Harman Kardon,
- fan less operation, which reduces noise to "half that of competitive products" when the iMac is in use and to "below the threshold of most people's hearing" when it is idling;
- support for Apple's AirPort wireless network,
- dual USB ports, a V.90 56Kbps modem, and 10/100Base-T Ethernet;
- and an enhanced Internet Setup Assistant and 30 days of free Internet access.

As far as what differentiates the models in the new line: the iMac has a 350 MHz G3 processor, 512KB backside cache, 8 MB SDRAM, a 24x slot load CD-ROM drive, and a 6 GB Ultra ATA hard drive; the iMac DV has a 400 MHz G3 processor, 10 GB Ultra ATA hard drive, and a 4x slot-load DVD-ROM drive with DVD video playback, the iMac DV Special Edition has the same configuration as the iMac DV but has 128 MB SDRAM and a bigger (13 GB) Ultra ATA hard drive.

Both iMac DV models also come with a DVD copy of Disney/Pixar's *A Bug's Life* dual 400 Mbps FireWire ports to connect to high speed devices, such as external disk drives and digital camcorders and Apple's new iMovie software

While Apple said the new iMacs were available in the U.S as of the announcement, details of availability and pricing in Canada were not provided in time for this issue. According to Apple, an iMac with a 350 MHz processor has a suggested retail price of US$999; an iMac DV with a 400 MHz processor is priced at US$1,299, and an iMac DV Special Edition, which is also powered by a 400 MHz processor is priced at US$1 499

Mac OS 9 release date

Jobs also announced that OS 9, a "major" new release of the Macintosh operating system will be available Oct. 23, for a suggested retail price of US$99 According to Apple, Mac OS 9 features nine "Internet power tools," and the debut of the Sherlock 2 search engine. Jobs previously announced details of OS 9 during his keynote speeches at the Macworld and Seybold conferences in the U S this summer *TCP* included reports from both events. For more information on OS 9, check our online archives (http://www.tcp.ca) or Apple's Web site (http://www.apple.com)

iMovie software

Apple's iMovie software comes pre-installed on all iMac DV and iMac DV Special Edition models The company says the desktop video software uses iMac's built-in FireWire port to transfer video from a digital camcorder into an iMac. Users can then re-arrange clips, add special effects like cross-dissolves and scrolling titles and add soundtracks and sound effects witha iMovie

The edited video can be saved to the computer's hard drive sent back to the camcorder, transferred through the camcorder into a VCR for making VHS videotapes or saved as a QuickTime file that can be emailed or posted at a Web site

"The new iMacs with our iMovie software usher in the era of desktop video, allowing mere mortals to easily create professional quality movies right in their homes or classrooms," Jobs said ❑

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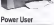

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ATI Xpert@Play 98	8M		$98
ATI Xpert98	8M		$105
ATI Xpert 128	16M		$141
ATI All-in-Wonder 128	16M	retail	275
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ATI Rage Fury	32M	retail	219
Creative 3D Blaster TNT2 ultra	32M	retail	280
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Diamond V770 Ultra	32M	retail	275

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Daytek 1726D Digital	17"	1280	.25	$324
Optiquest Q71	17"	1280	.27	$327
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Optiquest V95	19"	1600	.26	$575
Sony 420GS	19"	1600	.25	$870
Sony 520GS	21"	1600	.27	$1420
Sony 500PS	21"	1600	.25	$1885
Viewsonic E771	17"	1280	.27	$332
Viewsonic E773	17"	1280	.25	$411
Viewsonic G773	17"	1280	.26	$456
Viewsonic GF775	17"	1600	.24	$505
Viewsonic PT775	17"	1600	.25	$676
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Viewsonic PS790*	19"	1600	.26	$725
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Viewsonic P810	21"	1600	.25	$1245
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Mleap.com: free e-commerce tools

By Tom Venetis

While many have proclaimed electronic commerce (e-commerce) as a revolution, many small Canadian businesses are feeling left behind.

"In our overall view of the whole electronic commerce industry, we believe it is flawed," says Tony Comparelli, chairman and chief executive officer of Toronto's mindthestore.com. "We believe the hysteria around the Internet has caused a lot of businesses to invest a lot of money, but without any return."

> We believe the hysteria around the Internet has caused a lot of businesses to invest a lot of money, but without any return
>
> *—Tony Comparelli*

Comparelli goes further and calls the current means of getting businesses online extortion, with the software companies that develop e-commerce solutions capitalizing on the hype of the Internet "on the back of small businesses."

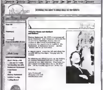
If a small business does manage to get the funds needed to get online through an ISP, or with one of the solutions offered by e-commerce firms, it is often not equipped to handle the flood of orders coming in. This can leave the company frustrated and with a swelling number of disgruntled consumers.

Comparelli says mindthestore.com is eliminating these barriers by offering small businesses MLeap.com, a free online service to sell goods and services at levels they can handle, with a marketing component of strategic banner ad placement. MLeap.com grew out of mindthestore.com's electronic business solutions, such as inventory control, point-of-sale transactions, accounting and finance.

"MLeap.com is a technology that we will give away for free to all businesses," Comparelli adds. "We will host and run it for businesses and all they have to have is an Internet connection and a browser. We are telling them this is an application that will help them better run their business."

Small businesses joining MLeap.com can build an inventory database of up to 25 products, construct a home page, customer database, and catalogue, use electronic shopping cart functions, process secure electronic credit card transactions and manage the delivery of orders to customers.

If the inventory database seems small compared to what many other e-com



*Continued on page **77***

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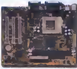

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Continued from page **72**

merce solution sites offer, there is a reason Comparelli says.

"We are aiming this at companies who are trying to move some outstanding inventory and to help companies that don't have a presence on the Internet," he continues "We are not helping them move thousands of pieces of products, but 10 maybe 20 pieces a month."

The goal is also to not only drive sales on the Internet, but to use the MLeap.com site to drive sales to the brick-and-mortar store itself since Web-based only businesses are rarely successful, Comparelli adds.

To help move the products even faster MLeap.com will use targeted banner advertising among its members placing ads on member sites that have similar products in order to spur sales When an ad is clicked, it will automatically bring up a sales form so the product can be purchased immediately without sending the customer to another site. MLeap.com takes a percentage of the completed transaction value. The percentage is negotiated with each company according to what it can afford

At its launch, some 500 businesses had already signed up for MLeap.com, and mindthestore.com expects another 5 000 businesses across Canada to join in the next 30 days.

One business already looking into MLeap.com is Westmount, Que.-based American Health Services Inc

Andre Escaravage vice-president of American Health is considering using Mleap.com to sell its Total Spectrum line of "anti-aging" health products on the Web

"E-commerce would be our preferred method of sales," says Escaravage "The product is now manufactured in California but will soon be manufactured in Montreal with the assistance of the Government of Canada. Our target market is Canadian baby-boomers."

Escaravage says the attraction of MLeap.com for a company like his is the cost savings especially the up-front costs associated with processing credit card purchases over the Web For a small business the deposit and processing fees can be as high as $75 000. "For many small businesses that means they will not be able to process Visa MasterCard or American Express " says Escaravage

"We don't have a budget for an independent e-commerce site nor the technical staff to create and manage such a site " he continues. "The fact that the company is based in Toronto [rather than the U.S] is a big plus "

Comparelli says once a business becomes successful at selling its goods on line through MLeap.com, it can begin to look more seriously at putting in the necessary back-office technologies and Internet tools to support e-commerce on their own

"We want to get them exposed and get them started and then get them to evolve to a much more sophisticated back-office technology " Comparelli says. "Our goal is to become a true Internet service provider. We want to supply them with the tools not just to run their online enterprise, but also their entire enterprise."

"This is a first step in e-commerce," says Escaravage "The whole approach is somewhat scary to most small Canadian businesses and there appears to be a need for this type of service. Mleap.com may the vehicle for small Canadian companies to get products to market in the most economical fashion possible." ❑

E-cash to be sold in retail stores

NEW YORK (NB)—SpendCash has announced plans to launch a new Internet e-cash operation called InternetCash in the U.S. in November.

Unlike other e-cash services, the firm says it will be possible to buy the InternetCash tokens—with credit and debit cards or real cash—from retailers across the U.S, according to SpendCash representative Miranda Tan.

"InternetCash will be totally unlike other e-cash ventures," she said, adding that anyone will be able to walk into a retailer and buy an InternetCash voucher for various amounts and use that voucher online.

A key feature of InternetCash will be that the tokens will be anonymous when spent at Web sites. This will be useful, the firm says, for when consumers spend their e-cash on gaming and other services

SpendCash did not indicate if or when the InternetCash service would be available in Canada ❑

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Continued from page 14

Amazon.com and Barnes and Noble duking it out south of the border to see who will dominate the book trade of the future. So far, Amazon.com appears to be winning, selling hundreds of millions of dollars worth of books, music CDs and other products (and most recently, opening its doors to others to sell through its site).

In Canada, online booksellers are competing for a much smaller potential market, amid reports that sluggish Canadian e-retailers may already have waited too long to get started against the American competition. However late in the game or not, a real horse race is underway between booksellers Chapters.ca and Indigo.ca.

Indigo Books and Music Inc. recently announced deals with both @HomeCanada and Sympatico, two of the largest ISPs in Canada. The Indigo.ca deal should put that company's online offerings in front of more than 700 000 Canadian Internet users, giving it a definite marketing edge over Chapters.ca.

For its part, Chapters.ca reported selling $3.7 million worth of products online in the quarter ending July 31.

Sales results for the back-to-school and holiday-buying period will be awaited with eagerness by both book publishers and Canadian retailers, to see if the Canadians can effectively combat the strong magnetic attraction of Amazon.com on the Canadian book reading public.—*JE*

Sega launches Dreamcast

SAN FRANCISCO Calif. (NB)—Video-game maker Sega has teamed up with browser builder Planetweb to launch the world's first 128-bit, 56Kbps modem Internet-enabled home video game console, called Dreamcast.

Planetweb will supply the Net software and services for the Dreamcast appliance enabling online gaming functionality through a TV monitor. The Planetweb browser selected by Sega consists of Internet access for consumer electronic device surfing, parental control, email, chat, secure socket layer (SSL) for e-commerce, JavaScript, magnifier and a navigational control.

Dreamcast is designed for use with a television monitor but features a detachable unit, called a Visual Memory Unit (VMU), which allows players to take games on the road and to share information with other users. It is the first video game machine designed from concept with network capabilities in mind, Sega says.

Initially, Sega Dreamcast Network gamers have access to email, chat, bulletin boards and Web browsing. Beginning in 2000, the network will support full online gaming, allowing scores of players to participate simultaneously.

The other major players in this lucrative market are scrambling. Nintendo recently announced a handheld Game Boy with cellular phone and digital camera connectivity so gamers can not only remain mobile but can see their opponents as well. Although not yet available commercially, the device, code-named Game Boy Advance, will allow players to download games from the Web, play against online opponents one-on-one or in multi-player matches, engage in real time chat, and send and receive email.

Sega http://www.sega.com
PlanetWeb http://www.planetweb.com

Sites line up with Dreamcast content

TOKYO (NB)—When Sega launched sales of its new Dreamcast console in North America in September, it wasn't the only company preparing for the event.

Several Web sites are lining up to welcome users of the console, which has the ability to access the Internet. EUniverse launched a Web destination dedicated to providing the best content for the console. Sega has a Dreamcast section and online community on its own Web site and Big Entertainment launched a site featuring games for the console.

Big Entertainment, http://www.bige.com
Dreamcast, http://www.dreamcast.net
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Continued on page 88

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3Com, Microsoft launch home networking systems debut

SANTA CLARA (NB)—3Com Corp has announced shipment of its first HomePNA (Home Phone Networking Alliance) systems in late September Co-branded with Microsoft Corp., the HomeConnect systems as they are called include Microsoft's HomeClick network software to drive the hardware

The new Ethernet kits support two users and offer data transfers of to 100 Mbps for both internal PCI and external USB connectivity The PCI version of the kit has a suggested retail price of US$180, while the USB edition sells for US$10 more. Plans call for 3Com to offer other HomeConnect kits in the coming months

While there are competing HomePNA kits now starting to ship in the U.S 3Com says the HomeClick network software from Microsoft is the easiest on the market to install and use The firm says this is thanks to a setup wizard and network-centre application both of which make the actual configuration functions transparent to users.

3Com says users need only complete a simple series of steps to install a home network kit. If necessary the software also provides intuitive troubleshooting, helping consumers pinpoint and correct any errors.

Both firms say they have incorporated several innovations in their home networking products including features such as device discovery (similar to Windows Plug and Play), and home and office network profiles

The optional profiles are included because 3Com believes more than half of multiple-PC homes will include a laptop that is used both in the home and at the office The profiles support hassle-free switching between network profiles through a simple desktop shortcut When connecting to either network, saved network settings are loaded to match the appropriate network requirements

The kits also includes trial editions of popular single and multiplayer Microsoft games (Age of Empires Rise of Rome, Golf 99 Baseball 2000, Monster Truck Madness II, Close Combat III), and access to the MSN Gaming Zone

Rick Thompson vice-president of Microsoft's hardware division, said that with more and more homes having multiple PCs, people want to be able to share files and resources such as printers and Internet connections. "The HomeConnect home networking kits make this simple," he said. ❑

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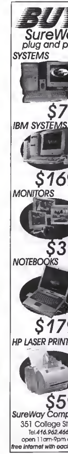

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The Net resource centre

LAN LINE

Issie Rabinovitch

The complexity of the modern network operating system is such that even an experienced administrator can be hopelessly stumped by a problem. Often the only alternative is to go back to ground-zero and start again with a fresh installation. The system is built up step by step, with pauses of a few days between steps to catch possible problems. Excruciatingly detailed documentation is a good idea.

The more you know, the more likely you are to avoid this painful scenario. One of the best sources of information to help you become a more capable network administrator is the Internet. I would like to share some useful Web sites and newsgroups I have found over the years, and also some interesting tidbits of information on Windows NT.

TipWorld (http://www.tipworld.com) doesn't contain much information but you can subscribe to a tip of the day. The tips are delivered by email and cover a wide range of subjects, including NT Server, NetWare, Power NT Workstation, Year 2000 and Lotus Notes. I've tried them all, and I'm currently subscribing to NT Server tips.

Most of the tips are fairly elementary, but there's nothing wrong with reading an explanation of something you already know. Every week or two I receive a gem that justifies the subscription.

An example of a particularly valuable tip was an explanation of why Windows NT's Server Service fails to start in certain situations. It has to do with how Service Pack 3 (SP3) and later works. If it is applied before an Ethernet card is installed, it doesn't update the srv.sys file because that file has not been installed yet. The Service Pack only updates files that already exist, and this file only exists on systems with a NIC (network interface card) and associated networking components. The srv.sys file from SP1 is not compatible with the updated SP3 system files, and a system with this combination generates errors.

Although this has never happened to me, it's not hard to imagine such a scenario. The example was illuminating in that it demonstrated the care required to keep clear of problems and the kind of thinking required in Windows NT troubleshooting.

Unfortunately, TipWorld doesn't provide an archive at its site. The only way to get these tips is one at a time. That may not seem fast enough for some, but as the weeks go by you accumulate quite a collection.

Microsoft issues fairly regular Service Packs for both Windows NT Workstation and Server. Currently the most up-to-date version is SP5, although SP6 should be available by the time you read this column. No one should enter the year 2000 with anything older than SP4. I've had very good luck with SP5, but not all Service Packs are solid. The most notorious was SP2, which was so bad many continued with SP1 until SP3 debuted.

News from the front lines

I never upgrade to a new Service Pack until I read about the experiences of early adopters on key Web sites or via some of the good Windows NT newsgroups. I can recommend comp.os.ms-windows.nt, comp.os.ms-windows.nt.admin.misc, comp.os.ms-windows.nt.admin.networking and comp.os.ms-windows.nt.admin.setup.hardware. With a good newsreader like Agent or Free Agent, you can readily find much useful information while avoiding the inevitable flame wars and exhibitions of egotism.

As for Web sites, Microsoft's site (http://www.microsoft.com) is the place to start. It can be dry at times, but contains a mountain of useful information and downloads. ZDNet (http://www.zdnet.com) has an NT forum, and many useful articles and columns. Dr. NT is an interesting area to visit. Beverly Hills Software (http://www.bhs.com) has a Windows NT/2000 Resource Centre, which is also worth the trip. Don't be misled by the name. There's nothing frivolous about this site.

I came across a question in a FAQ at Beverly Hills Software that stimulated a lot of thought and discussion with friends. Say you have a stable installation of NT Server on a hard disk, but you want to move it over to a larger and faster hard disk that you've recently purchased. What is the best way to accomplish this? As with most things in Windows, there is more than one good method. For one approach you need to have a tape backup of the entire drive, as well as a current emergency recovery disc. With the system turned off, install the new hard disk, and install NT with a minimum of features to a directory with a different name than any on the original hard disk, say C:\WIN4. Once this is done, install the driver for your backup tape drive, then the backup software, and finally restore the backup tape. Chances are there will be some problems, so reboot using the Windows NT installation discs. Choose the option to repair an existing installation, and use your emergency repair disc when prompted. At the end of this procedure you should be booting and running smoothly on the new hard disk.

If you are fortunate enough to have modern tape backup software like Stac Replica, with its disaster recovery features, you will be able to restore your entire system on your new hard disk using the backup tape together with the boot discs Replica creates. There will be no need to re-install Windows NT, and you will be done several hours sooner.

There's an entirely different approach that may also appeal to you. Since NT allows you to mirror any hard disk in software, you can install the new hard disk and use it to mirror the original hard disk. Break the mirror, remove the old hard disk, and you're in business. Or perhaps you want to reformat the old hard disc, and use it as a data disk.

This brief description doesn't exhaust the number of ways in which this task can be performed, but I hope it whets your appetite to use the Internet to learn more about Windows NT or NetWare, Linux, or any other network OS. ❑

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The TeX alternative

By Gene Wilburn

When Unix was created by Ken Thompson in the late 1960s it was quickly pressed into service at AT&T labs for document processing. In the days before desktop word processors, text processing was an important and common task for computers. Documentation was created by inserting tags and codes into a plain text file, much in the manner of today's HTML (hypertext markup language) then "run off" through a specialized program to produce output

linux INSIDE

In addition to sending output to printers, many of the text processing systems such as troff (typesetting runoff) were designed to send output to a typesetting machine Because of this typesetting bias documentation produced with these systems is strikingly readable and often very beautiful, typographically

One of the most brilliant text processing systems was created by Donald E. Knuth a world authority on programming algorithms He called his system TeX, pronounced "tek," or "tekhhh with a Scottish guttural emphasis at the end (don t practice pronouncing it this way in polite company) The final "X" is the Greek letter "chi" not the English letter "X"

TeX was created with mathematics in mind and is still the premier system for producing books and articles that require complex typeset mathematical formulae It also happens to be a very fine general purpose typesetting system

Typesetting languages at a low level, are inherently complex and learning to typeset in either troff or plain TeX can rapidly demand guru levels of understanding To make TeX much easier for writers, Leslie Lamport created a set of easy-to-use macros for TeX, which he dubbed LaTeX (pronounced "*lay-tek*")

These mature powerful typesetting systems are available for free with Linux and are included on every distribution CD If you have enough disk space you can treat yourself to a whole new adventure by installing them and trying them out.

The Linux troff program is actually called groff, for GNU runoff Troff has gone somewhat out of favor as a typesetting system. TeX and LaTeX however, are still widely used alternatives to word processing and there is an active worldwide TeX community developing a continuous stream of new features and macros. One question always arises from those who have never been exposed to a text processing system before if you can use a program like WordPerfect why use something like LaTeX for documents?

There are some good fundamental reasons why you might want to try out the LaTeX alternative

First, it's free and it's open source. It's also portable across platforms--TeX and LaTeX are available for Unix Macintosh, and Windows What's particularly interesting about TeX is that for a bit more work up front, you get a bigger payoff at output time

If you can use a program like WordPerfect, why use something like LaTeX for documents?

There are also aesthetic considerations Word processors are sloppy WYSIWYG programs have dumbed us down in terms of classical typesetting principles and conventions

Few people are taught how to use a word processor correctly, so output quality generally resembles the manner in which the text

Continued on page **85**

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Multimedia email overload eased

AUSTIN, Tex., (NB)—The days of sending big PowerPoint presentations or slick JPG photos via email attachment, only to find out that your email system couldn't handle the load, might just be over.

If they are, you can thank Microsoft for the help. That's because the software giant with a little help from multimedia email specialist Picante Communications Corp., is making bulky multimedia attachments a bit easier to handle for Microsoft Office users.

Through a distribution agreement with Microsoft, registrants of Microsoft's Office Update Vendor Program can access a free download of Picante for Outlook, billed by both companies as a "simple, fun multimedia email enhancement" package (go to http://www.officeupdate.microsoft.com/2000/downloadDetails/Pic4out.htm).

Picante officials say they plan to extend the offer to the more than 60 million Outlook users in coming weeks.

For the first time ever, Microsoft says, users can easily add pictures, sounds, video clips, banners and colorful labels to emails without purchasing separate multimedia software applications. With a click on the Picante icon within Outlook, these multimedia elements, along with Excel spreadsheets, PowerPoint presentations and Word documents, are embedded live into a single multimedia page and not as separate attachments.

The recipient should have an easier time as well. Rather than going through a tedious process of opening a slew of attachments that each require a separate software application to read, the recipient receives a Picante message that opens with all the multimedia elements live within a single page. Anyone with a browser can read a Picante email with no special software required.

"We believe that Picante for Outlook significantly increases product functionality for Microsoft Office's software products," says Karen Needler Scales, program manager for Microsoft Office Update Vendor Program. "Picante is an easy, fun option that's integrated right into Outlook."

For its part, Picante hopes users will embrace a new technology that the company thinks will change the way people look at email. "Email has changed the dynamic of communications, and multimedia is changing the dynamic of email," says Alex Mintz, chairman of Picante Communications Corp. "We want to evolve even the most basic email user to a level where he or she is communicating with all forms of media, not just text." ❑

Microsoft, Ford to sell cars online

SAN FRANCISCO, Calif. (NB)—Microsoft Corp. has confirmed reports that it will team with Ford Motor Co. to form an online automotive marketplace. Microsoft will own a majority stake in the new CarPoint joint venture, which will have as members Ford and other "key leaders in the automotive industry," according to Microsoft officials.

Specific financial details were not released.

Ford and Microsoft said the new CarPoint is slated to include a planned build-to-order system that would let customers link directly with automotive manufacturers' supply and delivery systems. Through this link, consumers would order any car model with their exact specifications—first from Ford, and eventually from other automakers that sign up for the program.

The new system would also let customers get immediate feedback on the availability of the car they want, as well as schedule delivery and service appointments at a local dealership.

Manufacturers, meantime, can obtain instant and simultaneous online views of a car's status through to the time when the customer takes delivery of the vehicle.

Already, CarPoint offers detailed specifications and pricing information, reviews and advice from leading automotive writers, interactive decision management tools, a new- and used-car buying service, and personalized maintenance and recall information.

• Microsoft also announced a pact with American Honda Motor Co., where the U.S. division of the Japanese company will license a specific technology found in the CarPoint Web site for the automaker's Honda and Acura brands.

While the "qualified" dealerships are all based in the U.S., the CarPoint site has several features that would be of interest to Canadian car buffs, including reviews, advice and 360-degree video clips of new vehicles. ❑

CarPoint, http://www.carpoint.com

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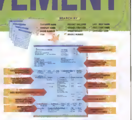

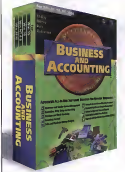

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is slammed in. With LaTeX, the emphasis is on organization rather than looks. The built-in styles guarantee that your output will look highly professional and follow proper typesetting etiquette. All you have to do is enter the tags and you'll have great, classic-looking output.

Not only that, but Linux allows you to have your cake and eat it too. You can create LaTeX documents in your favourite text editor and also enjoy a beautiful WYSIWYG preview of the output, using a program called xdvi.

Here's an example of a simple LaTeX letter—the kind that might have been written in the days before email.

```
\documentstyle{letter}
\address{123 Linux Drive \\ Port Debian  ON \\ L5G
9X9}
\signature{Ima Texhead  Jr.}

\begin{document}
\begin{letter}{Ima Texhead  Sr. \\
            456 BSD Way \\
            Berkeley  CA 95587}

\opening{Dear Dad:}

Hope you're proud to see I'm now using \LaTeX\ just
like you Dad. Now that I've arrived, I could use
some cash for a new Linux system.

\closing{Thanks.}

\end{letter}
\end{document}
```

TeX and LaTeX files are normally created with a ".tex" extension. If you use the Emacs editor on a file with this extension, it automatically goes into TeX mode and provides additional menu items to make TeX and LaTeX even easier.

Although the tags seem unusual at first glance, they bear a strong resemblance to HTML tags. Anyone experienced in hand coding Web pages can enter the LaTeX mindset easily.

Let's call this file myletter.tex. To preview it (you need to be in X Window for this) you type **latex myletter.tex**. If this finishes without errors, then type **xdvi myletter.dvi &**, wait a bit for the fonts to be generated, then watch a beautiful typeset quality preview appear.

To send the output to a printer, type **dvilj myletter.dvi ; lpr myletter.lj** if you have a laserjet printer or equivalent or **dvips myletter.dvi ; lpr myletter.ps** to send the output to a PostScript printer. These programs convert the TeX device independent file (dvi) into laserjet or PostScript files, respectively.

Post processing

One of the things that makes LaTeX attractive is the number of post processing programs available. One widely available program, latex2html, can turn a book length set of LaTeX files into a complete Web based book with a table of contents, chapter and section breakouts, footnotes, index and bibliography.

A companion system to TeX called BibTeX, provides a method for creating complex bibliographic citation databases and

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inserting relevant entries into footnotes and bibliography sections.

LaTeX also provides a very effective way to publish material from a database. It allows for the inclusion of figures and illustrations, making it ideal for creating things like beautifully typeset print catalogues from a database. Toss out Quark XPress. You're about to experience LaTeX power!

CTAN

You can, of course, adjust LaTeX to follow different styles than the built in ones, but you don't have to invent your own macros. A basic rule of thumb when using Linux is "don't re-invent the wheel." Part of living in this exciting open-source environment is that efforts are pooled together for community use.

Take a trip to Comprehensive TeX Archive Network (CTAN) at http://tug2.cs.umb.edu/ctan/. There you will find a couple of decades worth of LaTeX macros or scripts for everything from alternative style sheets, to typesetting musical scores, to creating business cards. The material is free.

If you get hooked on LaTeX and occasionally need help, join the newsgroup comp.text.tex, one of the friendlier and more helpful newsgroups on the Internet. Stick with LaTeX for a year and you qualify for an "I am a TeXhead" t-shirt.

For further reading on TeX and LaTeX, the following two titles are classics. *The TeXbook*, by Donald E. Knuth, published Addison Wesley 1984 (ISBN 0201134470) which is not recommended for beginners, and *LaTeX—A Document Preparation System, 2nd Edition*, by Leslie Lamport, published by Addison Wesley, 1985 (ISBN 0201529831).

Additional recommendations include *The LaTeX Companion* (ISBN 0201541998) and *The LaTeX Graphics Companion* (ISBN 0201854694), which are also published by Addison-Wesley.

These books are all expensive, ranging from $50 upwards. Before investing in expensive reference materials, check out the excellent free guides and tutorials available from CTAN. ❑

Gene Wilburn (njo@interlog.com) is a Toronto-based IT manager, musician and writer who operates a small farm of Linux servers. Back issues of this series are available on his Web site at http://www.interlog.com/~njo/

LyX: Visual LaTeX

If LaTeX sounds interesting, but the idea of poking tags into a text file doesn't appeal to you, there's an exciting open-source product called LyX you might want to investigate. LyX is a visual near-WYSIWYG editor for TeX and LaTeX. Think of it as LaTeX with training wheels.

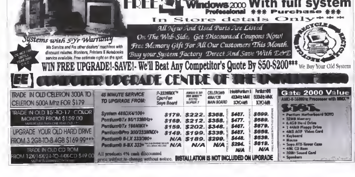
LyX, and its variant KLyX (slightly adjusted to work seamlessly in the KDE environment), has the look and feel of a word processor. You use your mouse to open a file, pick a style, pick options from menus and then, when you're ready, you just type away. It even does the xdvi previewing steps for you from the menu bar so you don't have to type commands manually.

LyX is integrated with the ispell spelling checker and has all the usual modern amenities such as Search and Replace and Undo. It also has a great guide and a great tutorial built right into the program. Serious TeXheads who do very complex things with their files will still prefer the roll-your-own text approach, but LyX is a treat for those who just want to create straightforward letters, articles, and reports.

If you like the professional look of typeset documents but prefer the ease of use of a word processor, LyX may be the ticket for you. In fact, LyX is so nice that it may just become one of your most compelling reasons for ditching that other operating system and running Linux full time.

If LyX or KLyX is not included with your distribution, you can download the source as a gzip'd tar file and compile it into your system. The source for LyX is at http://www.lyx.org

—Gene Wilburn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Nov. 1999

*Continued from page **78***

AOL Canada to offer cable access

TORONTO (NB)—AOL Canada says it has inked a deal with a small regional Canadian cable operator to bring high-speed broadband Internet access to small towns across Canada.

The deal struck between AOL Canada Inc. and St John's Newfoundland-based Regional Cablesystems Inc will see service begin this autumn in Sturgeon Falls, Ont. population 6,200 and marks the introduction of AOL Plus, as the high speed service is dubbed.

According to a report in *The Wall Street Journal* in September AOL Canada says a national rollout to Regional Cablesystems' 250,000 subscribers in 1,000 non metropolitan areas across Canada is expected to follow, but a schedule has not yet been set

The AOL deal is the first to be announced since the Canadian Radio-television and Telecommunications Commission ordered Canadian cable operators to open their networks to independent ISPs

AOL Canada http://www.aol.ca

Corel calls for design contest entries

Corel Corporation has announced the opening of its 10th anniversary World Design Contest. First held in 1990 Corel says, the contest has become an international forum to recognize and pay tribute to the best in computer illustration

It is open to users of Corel graphics products The contest runs through June 30 and winning designs are selected throughout the year

The contest awards outstanding graphic design in six categories: people plants and animals, abstracts, technical drawings page layout and promotional works, corporate and product identification, and Web design splash screen Details on the competition can be found at the Corel Web site —*MJ*

Corel http://www.corel.com/contests

Chinese Office 2000 released

HONG KONG (NB)—Microsoft Hong Kong has released Microsoft Chinese Office 2000 Hong Kong edition a Chinese-language productivity suite intended specifically for the Hong Kong market

Office 2000 Hong Kong version provides all the functionality found in the English version of Office 2000 incorporating enhanced multilingual support and Web collaboration capabilities that help streamline information sharing and workgroup productivity

The Suite includes translation between traditional and simplified Chinese, a user interface that is switchable between simplified and traditional Chinese or English and a calendar with Hong Kong's public holidays

Three versions bundle different applications The most comprehensive is Office 2000 Premium, which includes the FrontPage 2000 Web site creation and management tool, the PhotoDraw 2000 business graphics software, Word 2000, Excel 2000, Outlook 2000, the PowerPoint 2000 presentation graphics program, Access 2000, Publisher 2000 and Internet Explorer 5 Web browser software

Microsoft Hong Kong http://www.microsoft.com/hk/

HP expands all-in-one line

Hewlett Packard Canada Ltd has announced the availability of two new all-in-one (AIO) devices that combine color and monochrome faxing, scanning, printing and copying for under $1,000

In a demonstration at *TCP* offices, Michael McAvoy, product manager for business printing at HP Canada put the new products through their paces

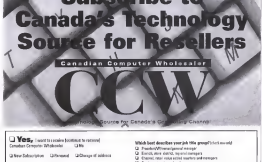
The OfficeJet T series features a high quality built-in sheet fed color scanner with 600x2,400 dots per inch (dpi) optical resolution (up to 9,600 dpi enhanced) a 600x600 dpi printer with 8.5 page per minute (ppm) color and 11 ppm monochrome output speeds

HP demonstrated the unit's photorealistic color print output, emphasizing the company's unique print color-layering technology that delivers higher image quality than printers claiming 1,200x1 440 dpi resolutions

Both new OfficeJet T series models feature full standalone fax capability via a comprehensive control panel on the front of the device and the products conform to the new color fax standard as well as allowing for easy emailing of color or monochrome scanned documents

HP predicts the AIO product category will continue to be the fastest growing printer-related product category for the next several years, and says it plans to own a substantial piece of the market through a combination of reliability, state-of-the-art printing, scanning and connectivity technology, and strong warranty support.

The new HP OfficeJet T45 and T65 devices have street prices of $799 and $999, respectively.—*JE*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☐ Yes ☐ No

Which best describes your firm's primary business at your location? (check one only)
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☐ Mass merchandiser
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☐ Distributor/wholesaler/hardware manufacturer/OEM
☐ Software developer
☐ Systems integrator/software consulting
☐ Government purchasing agents
☐ Computer maintenance/service company
☐ Hardware/software retailer
☐ Other/please specify ______

Which best describes your job title group? (check one only)
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☐ Branch, store district, regional managers
☐ Channel, retail value added resellers and managers
☐ Purchasing and merchandising managers
☐ Product development managers
☐ Computer consultants
☐ Technical management
☐ Design system and application engineers
☐ Marketing sales managers
☐ Other/please specify ______

The systems my organization integrates or resells are based on the following: (check all that apply)
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☐ Windows NT
☐ OS/2/Compatibles
☐ Networking
☐ Unix
☐ Linux
☐ Macintosh
☐ Other/please specify ______

What is the number of employees at this location? (check one only)
☐ 10,000 or more
☐ 5,000 9,999
☐ 2,000 4,999
☐ 1,000 1,999
☐ 500 999
☐ 250 499
☐ 100 249
☐ 20 99
☐ Less than 20
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What is your firm's approximate gross annual sales? (check one only)
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Xerox launches color all-in-one

Xerox Canada has introduced a new color all-in-one (AIO) device that incorporates a full featured flatbed scanner inkjet printer and copying capabilities for an estimated street price of $549. The XK35c is the latest in the Xerox WorkCentre line of personal multifunction devices, and its 1,200 dots per inch (dpi) color inkjet technology is licensed from Lexmark, one of the leading inkjet technology developers

When used as a printer the XK35c prints black and white pages at speeds up to 6 pages per minute (ppm) In copier mode (which involves scanning an image as well as printing), output is up to 3 ppm monochrome and 1 5 ppm color.

Xerox has also introduced a multifunction device that offers full fax capability along with color scanning, printing and copying The new WorkCentre Xi70c, with a street price around $749, also has higher printing speeds (9 ppm monochrome and 5 ppm color) and copying speeds (up to 8 ppm monochrome and 4 ppm color) The new products come bundled with MGI's Photo Suite image-editing software and Xerox Pages Pro scanning and TextBridge optical character recognition (OCR) software —*JE*

Goodbye URL, hello common name

Do you ever have trouble remembering long URLs to access Web pages? Well, the Internet Engineering Task Force or IETF is pushing through a new protocol called the Common Name Resolution Protocol (CNRP) which could change all that.

The CNRP is designed to associate common names to *specific* URLs relative to an Internet document requested It's most likely, in the beginning, to be used more in internal corporate networks (intranets) to provide a layer between the name of a document and where it's actually located A draft of the CNRP is available on the IETF's Web site.—*JE*

IETF http://www.ietf.org/

Intel rolls out home PC products

Intel Corp has unveiled a range of new computer products aimed at enhancing computing in the home A total of five new products were demonstrated in a "wired home" in the trendy King Street West loft district of Toronto in mid-September Doug Cooper marketing manager of Intel of Canada Ltd was the master of ceremonies for the series of product demonstrations to assembled computer media

One highlight was the AnyPoint Home Network, which uses available phone lines within the house as network cabling AnyPoint uses easy-to install components to link up to 25 PCs to share one Internet connection and peripherals, such as printers The AnyPoint system still allows the phone line to be used simultaneously for networking, Internet access and phone calls. Initially, AnyPoint will be available in Radio Shack outlets across the country A second generation USB version of AnyPoint will be introduced shortly

Intel also demonstrated an extremely nifty Intel Play QX3 Computer Microscope, an ingenious educational toy for kids that employs a digital video camera mounted in a microscope body to magnify objects up to 200 times, and display the images on a computer monitor. Microscope images can be captured as digital photos and stored, animated and manipulated with included Intel software or other image editing packages.

A family oriented video phone system—which allows for either real-time video phone interaction or one way "video mail"—was also on display

All of the new products reflect Intel's Internet-centric strategy to enable simple cost-effective access to computer technology for home, school and small office use.—*JE*

Intel of Canada http://www.intel.ca

Compaq launches new mobile line

Compaq Canada has announced a new line of mobile computing products to become available in the Canadian market almost immediately. In a demonstration at the *TCP* offices Compaq representatives showed three new lines of Armada notebooks two new Windows CE devices (one in subnote format one a palm-sized unit) and an extremely innovative lightweight portable data projector

The three new Armada notebook series

Website: http://www.microjack.com/
Email: sales@microjack.com
40 Shields Court, Units 1-4, Markham, ON
TEL : (905) 946-0908 FAX : (905) 946-8749

MICROJACK 3 PLUS

PC/MAC to TV Scan Converter

Specifications
Input: VGA or Mac
Horizontal: 24KHz-48KHz
Vertical: 50Hz 75Hz
Output: Composite video, S-Video, Computer Monitor pass-thru output & Scart RGB video

Key Features
- Plug&Play, No software drivers required!
- Compatible with all PCs, MACs and Laptops
- Supports resolutions up to 1024x768 (PC) & 640x480 (Mac) in 16.7 Million Colors
- Simultaneous display on computer and TV monitors
- Area Zoom function divides screen into 9 parts for instant zoom-in
- Full-screen Underscan/Overscan
- TV brightness control
- Support composite/S-video/Scart RGB video output
- Touch-button or wireless remote control access to all functions

TV98 Brings the exciting TV world right into the PC monitor
Key Features:
- Watch TV on your PC Monitor in resizable TV window from icon size to Full screen w/closed caption function
- 181 Channels Cable Ready TV Tuner function
- Image/Video Capture: AVI compatible & YUV4:2:2 Quality w/RGB 32/24/15 format
- Full screen (up to 640x480 for NTSC) Capture Capability
- Supports Coax, Composite & S-video inputs
- Video E-Mail software for video e-mail applications
- No feature connector or VGA loop-back cable required
- Watch TV or Video while working on PC applications
- Complies with PCI 2.1

Specifications:
- Input: 75Ohm Coax TV S-video, RCA, and Audio
- Output: Audio Output

Free Software included:
- Microsoft NetMeeting
- Microsoft Internet Explorer
- Video E-mail & WinTop

EZCapture
PCI based 32-bit Video Capture Card
- Plug & Play Image/Motion Video Capture
- Composite/S-video Input, AVI Compatible
- Support YUV 4:2:2, YUV 4:1:1 and RGB 32 24 15 format
- Full Screen Resolution Capture Capability (Up to 640x480 for NTSC, 768x576 for PAL)
- Comes with Microsoft Internet Explorer, NetMeeting and Stella's Video Control software

SYSTEM COOLER
5.25"/3.5" BAY HARD DRIVE COOLER
HD-100 2-FAN
HD-120 2-2cm Thick FAN
HD-200 3-FAN for SERVER
HD-220 3 2cm Thick FAN
HD-300
HD-600
MONITOR COOLER MC-100
PCMCIA EXT COOLER NB-100
CPU FAN P-02C For celeron
And more: CPU Fans for Pentium II/III, Socket 7/370, Single/Dual/Triple Fans.

AVerMedia
Bridging PC/Mac & Video
NON-LINEAR MOTION JPEG VIDEO EDITING
MV-300

Input
- S-Video & CVBS inputs for NTSC or PAL
- Audio input directly to sound card

Output
- S-Video & CVBS outputs for NTSC or PAL
- Multiple output:video tape CD-ROM (MPEG) Still picture (JPEG) and more
- Stereo audio output from sound card

Edit
- Ulead MediaStudio Pro 5.02VE for video editing
- Add special effects into video & audio production

Recording
- Full-screen/motion, true color real-time capturing
- Motion-JPEG Compression

Features
- PCI Bus Mastering Motion-JPEG card
- Professional quality video recording
- High quality video output and playback
- Powerful Drag-and-Drop nonlinear video editing
- Perfectly synchronizes digital video and audio signals
- Still image capture
- SmartPlayer eliminates 2GB AVI file limitation

Applications
- Nonlinear Video Editing
- Video image capture and processing
- Video recording and editing
- Video tape post-processing & production
- Multimedia presentations
- Entertainment video
- Surveillance/security system

Cam-Guard Plug & Play USB Digital Video Camera For Windows 98
Your Home/Office Watchdog
Key Features:
- USB Connectivity for true Plug & Play performance
- Snapshot: Frame size up to 640x480
- Full auto white balance control
- High Res. Video Capture
Up to 12.5fps(VGA/640x480)
Up to 30fps (CIF & QCIF)

Specifications:
- Lens Type: 4.0mm, F2.0
- Field of View: 62 degree
- Video Frame Size: from 160 x 120 (up to 30fps) to 640 x 480 (up to 12.5 fps) five discrete sizes available
- Color Depth: 32 bit color
- Video Output: Digital via USB, Compliant with H263 and H261

Applications
- Home & Office Security
- See & Speak w/Friends & Family on your PC
- Capture and send video Clip via E-Mail
- Create & Customize your Digital Photo Album

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24X / 56K / 12.1" TFT

Toshiba 4100XDVD..$4,100
P2-400 / 64MB / 6.4 GB
DVD / 56K / 14.1" TFT

COMPAQ
Presario #1692........$2,600
K6-433 / 64MB / 6.4GB
24X/12.1" Active Color

PCMCIA 56K GVC.......$165

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48X CD + SB 32 Sound + Speaker
56K V.90 Aopen Fax Modem
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WIN98 Preloaded CD + License
15" ACER Monitor Included

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Intel Celeron 433	$1,230
Intel Celeron 466	$1,260
Intel Celeron 500	$1,360

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500W Speaker+Subwoofer .... +$30
Canon BJC 2K color printer .... +$145

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10.2 GB Ultra ATA Hard Drive
ATX Mid tower case / 1.44mb Floppy
ATI 3D Rage Pro 8MB w/ AGP
48X CD / SB 128 / 500W Subwoofer
56K V.90 Aopen Fax Modem,Voice
Keytronic Keyboard Logitech mouse
Win 98 Preloaded w/ CD & License
15" ACER Monitor Included

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Pentium III 450	$1,580
Pentium III 500	$1,690
Pentium III 550	$1,980

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OLYMPUS D-340R $499

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100MB Int ZIP Drive IDE $99
LS-120MB 2X Panasonic $119
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H P Backup 5Gb Ext Par $350

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48X CD US Drive $89
Creative PCI 128 / Live Value $62 / $85
Altec ACS 44 4 pcs $135
Altec ACS45.1, 3pcs $125
Cambridge PC works 4 spk +Sub $130
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HP Surestor 7510 Ext. CDRW 2W $480
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Yamaha CDRW 6416 SCSI Int.Value $400
Pioneer 6x DVD bare Drive $129
Pioneer 10X DVD bare Drive $149
Sony DVD 6X bare drive $135

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17 G=$265 13 G=$199 8.4G=$189
20 G=$330 KA 9.1G=$218 Seagate
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9G=$499
18G=$1080

Memory

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PC100		$130	$250	$480
EDO	$70	$140	CALL	UPDATE

Canon Printers
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HEWLETT PACKARD
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Epson Stylus 850 14.4k $265

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HP 5200C 1200dp,usb/par $308
UMAX 1220P 600dpi par $146
UMAX 1220U 600dpi USB $156

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ATI Rage Fury 128 16mb $115
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Matrox G400 dual head 32mb ret $274

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include the Compaq Armada M300, a 1.35 kg (3 lb.) ultraportable, the 2 kg (4.5 lb) M700 series of mainstream notebooks, and the "workstation class" E700 series of full desktop replacement notebooks.

The M300 ultraportables offer a choice of processor (up to a 333 MHz Pentium II), an 11.3-inch screen, and ATI graphics chipset. An optional connector allows users to attach a Multibay peripheral with any of a range of CD-ROM, DVD, LS-120, or other storage drives. Prices for the M300 start at $3,424.

The M700 series are "thin-and-light" notebooks powered by a Pentium II processor (up to 400 MHz), with a 14.1-inch screen and a built in Multibay that allows users to swap a variety of modular drives in and out. Prices for the M700 start at $4,999.

The E700 series aims to offer the power and data storage capability of a high-end desktop PC. It can accommodate up to 34 GB hard drive capacity and comes with 128 MB of RAM, upgradeable to 320 MB, and 8 MB of video RAM. Prices for the line start at $7,374.

The two CE devices shown were the latest models of the Compaq Aero series. The new Aero 8000 is a 1.3 kg (2.9 lb) subnotebookstyle device with a 10-inch SVGA screen, a near full-size (95 percent) keyboard, and 13 hour battery life. Like other Windows CE subnotes, it has no hard drive and relies on onboard memory. An embedded Smart Card reader offers strong security capabilities for corporate users. The Aero 1200 series has a form factor very similar to the popular 3Com Palm series, but is based on Windows CE.

The most unexpected new product was the Compaq MP 1600 projector, a 1.9 kg (4.2 lb.) device that Compaq claims is not only the lightest data projector on the market, but has the best brightness-to-weight image projection ratio.—*JE*

Hard disks set for set-top boxes

LONDON, England (NB)—OpenTV, the interactive TV set-top box (STB) company, is planning to integrate hard disks within its future digital TV STBs.

The company is tapping the resources of Thomson Multimedia for the technology, which it will use to offer a technology it calls Digital Personal Recorder (DPR) on its digital TV STBs.

The DPR technology allows TV viewers to transparently record their digital TV channels onto the STB's hard disk, for viewing either later or "pausing" in mid-program if, for example, the viewer's phone rings.

If this sounds familiar, it's because TiVo and a number of other TV STB manufacturers are already using the technology to allow TV viewers to timeshift their viewing in the same way.

However, these so-called digital TV recorders are standalone devices designed to plug into a TV in much the same way as a tape-based VCR operates. OpenTV plans to integrate the function into its next generation of digital TV STBs.

Ultimately, digital TV viewers will have an integrated TV STB that allows them to view TV programs from several sources, interact with their box over the Internet, and transparently record TV channels for later viewing and/or assembly into "personal channels" for specific users.

If this sounds complex, it's because, on a technical level, it is. On a user level, however, the interactive STB is far from complex and merely integrates digital TV, Internet and digital VCR functions all in one small box which sits under or on top of the TV.

The first TV viewers to have access to this integrated set of services will be TPS' subscribers in France. Known informally as the Digital Personal Recorder (DPR), the device will be supplied as a digital STB to subscribers, allowing them access to a variety of services.

In time, OpenTV plans on offering the DPR technology to other OpenTV-compliant services around the world.

OpenTV http://www.opentv.com

What's New is written and edited by Jeff Evans, Megan Johnston, Sharlene Myers, and David Tanaka.

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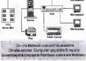

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10 Palm Web sites

By Keith Schengili-Roberts

3Com's Palm handheld computing devices—from the PalmPilot through to the latest Palm VII version—are still the most popular handhelds on the market, despite the many attempts to imitate them, and they have attracted a fervent following of users. This naturally has led to scores of Palm-inspired Web pages, everything from new user guides, to tips and tricks, and programming resources. Here is a selection of 10 sites devoted to the Palm.

1. **3Com | Palm Computing** • Any guide to Palm's Web presence has to mention this site, which is run by Palm's parent company, 3Com. Not only will you be able to read about the latest Palm developments at this site, it's also a key place to buy accessories, applications or even simply to find the location of a Palm dealer near you.
http://www.palmpilot.com
2. **PalmGear FAQ** • Got a question about

Palm devices? This site (hosted by PalmGear) seems to have an answer for just about every conceivable question involving PalmPilot hardware and software. It also has the latest Palm news and rumors, and lists favorite tips and tricks from other users.
http://www.palmgear.com/faq
3. **The Pilot Zone** • This is a specialized

Palm-centric offshoot of TUCOWS, a site that provides access to and information about shareware and freeware. Copies of just about all of the most popular Palm software can be found here, conveniently slotted into popular categories like utilities, games, connectivity, and development. The site is also searchable, making it easy to find the right application.
http://www.pdacentral.com/pilotzone
4. **Developer.com Palm OS Directory** • If you're already a Palm developer, or are interested in writing your first application for the Palm platform, the Palm OS section at Developer.com is worth a visit. You'll find tutorials, articles, development library resources, moderated discussion groups and more. The info is good enough to have convinced 3Com to team up with this Web site.
http://www.developer.com/directories/pages/dir.palm.html
5. **PalmCentral.com** • Founded early in 1997, PalmCentral.com is another resource worth looking into if you are searching for good Palm applications, as it hosts the largest Palm software archive on the Net. It is also a good source of information and news for Palm users.
http://www.palmcentral.com
6. **PalmGuru.com** • If you are looking for reviews of Palm software or hardware, this is the place. This site also has a handy New User's FAQ, plus a good

Continued on page 94

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THE INTERNET BEGINS HERE...

The law of cyberspace

Court addresses metatag misuse

By Brad Freedman

Metatags are hidden Web page descriptors that can be used to manipulate Internet search engines and mislead their users. Metatag misuse is of considerable concern to those involved in Web-based e-business, because search engines are a primary means of browsing the Web. A recent U.S. Federal Court of Appeals decision confirms that this novel form of Internet activity may constitute unlawful trademark infringement and unfair competition. Canadian courts will likely take a similar approach.

Metatags

Metatags are hidden terms used by Web page authors to provide narrative or key word descriptions of their Web pages. Metatags, and the information they contain, are normally not visible to computer users. However, they may be viewed by using an Internet browser's "source view" which displays Web page source code.

The metatags are found within the "< >" brackets. Metatag information is used by some Web search engines to identify, index, and catalogue Web pages, and to determine Web site relevance to search criteria.

The more often a word appears in metatags and in the text of the Web page the higher it will appear on the list of search engine "hits."

> Metatags can be used to misdescribe Web page contents and thereby manipulate search engine results to lure users to the Web page

Metatag misuse

Metatags can be used to misdescribe Web page contents and thereby manipulate search engine results to lure users to the Web page. In a number of cases Web page owners have used competitors' trade names and trademarks in their Web page metatags or in other hidden text to divert Web traffic from competitors' sites to their own. A number of American court rulings have held this form of metatag misuse to constitute unfair competition, misleading advertising, and trademark infringement or dilution and have granted injunctions requiring the removal of the metatags.

The MovieBuff case

The April 1999 decision of the U.S. Ninth Circuit Federal Court of Appeals in Brookfield Communications Inc. vs. West Coast Entertainment Corp. provides a useful discussion of metatag misuse.

The case involved a dispute between the plaintiff owner of an entertainment industry database called MovieBuff and the defendant owner of a Web-based entertainment database located at the Web site http://www.moviebuff.com.

The plaintiff sought a preliminary injunction to restrain the defendant from using the moviebuff.com domain name for its Web site and from using the word "moviebuff" in the metatags of its Web sites. The Court of Appeal granted the injunction.

The court held that the defendant's use of moviebuff.com as its Web site domain name infringed the plaintiff's rights in its MovieBuff trademark because there was a likelihood of consumer confusion between the defendant's moviebuff.com Web site and the plaintiff's MovieBuff trademark. The court's decision was consistent with a number of earlier American court rulings.

The court also held that the defendant's use of "moviebuff" metatags would result in "initial interest" confusion and a wrongful diversion of consumer interest from the

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plaintiff's MovieBuff product to the defendant's Web site

The court stated: "Using another's trademark in one's metatags is much like posting a sign with another's trademark in front of one's store."

The court reasoned that Web surfers looking for the plaintiff's MovieBuff product and directed by search engines to the defendant's Web site would find a database similar enough to the plaintiff's MovieBuff database such that a sizeable number of them would simply decide to use the defendant's product instead.

In this manner the defendant would improperly benefit from the goodwill associated with the plaintiff's trademark.

For this reason, the Court held the defendant's metatag misuse was a misappropriation of the plaintiff's goodwill and an infringement of the plaintiff's trademark rights

Commentary

Metatag misuse is a new form of old-fashioned trademark infringement and unfair competition One unique aspect of metatag misuse is the fact that the tags are usually not seen by the misled search engine users Nevertheless, this should not legitimize or excuse the deliberately misleading objective of metatag misuse The MovieBuff case and other American cases demonstrate that American courts will apply conventional legal principles to control misconduct in cyberspace

There are no reported Canadian court decisions regarding metatag misuse Nevertheless it is likely that Canadian courts would follow American jurisprudence and find that misleading metatags violate Canadian laws regarding trademarks and unfair competition ❑

This article is of a general nature and cannot be regarded as legal advice Bradley J. Freedman is a trial lawyer with the Vancouver law firm Ladner Downs His preferred areas of practice include intellectual property and computer law and commercial litigation. He can be reached by e-mail at bfreedman@ladnerdowns.com

10 Palm Web sites

Continued from page 97

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7. **LandWare** • LandWare is the creator of many hardware add-ons for the PalmPilot, Newton and other palm-size PCs including integrated keyboard/hotsync devices, voice-recording hardware, carrying cases and much more
http://www.landware.com
8. **Daggerware** • Daggerware is the maker of several programs (such as HackMaster and AppHack) that die-hard Palm users wouldn't do without. Various "hacks" allow you to do things like write Graffiti (a text input system developed for Palm devices) script directly to your view screen, completely mute the sound overclock your Palm, and much more
http://www.daggerware.com
9. **Project Gutenberg** • While not strictly a Palm resource Project Gutenberg is the leading purveyor of free electronic texts that you can load and read on your Palm If you want to catch up on your Shakespeare, or reading *Moby Dick* you'll find what you are looking for here.
http://promo.net/pg/
10. **Healthy PalmPilot** • This site is a good example of specific niches the Palm has been able to fill since its launch The site is wholly devoted to medical content and related applications for doctors that can be used on a Palm device
http://t.am/healthypalmpilot ❑

Australia studies disabled access

PERTH, Australia (NB)—Australia's Federal Attorney-General Daryl Williams has asked the country's Human Rights and Equal Opportunity Commission (HREOC) to investigate access to e-commerce and other new technologies by older and disabled Australians

The project is part of the Australian Government's initiatives for the International Year of Older Persons

Government statistics have shown that fewer than 10 percent of Australians over the age of 55 access the Internet Older Australians are also less likely to use other technology services only around 29 per cent use electronic methods of transferring funds and around 40 percent use ATMs

The issues paper can be accessed at the commission's Web site

HREOC http://www.hreoc.gov.au/disability rights

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Textbook sales move online

SAN FRANCISCO (NB)—The competition for student dollars on U.S. college campuses this fall has heated up. While campus-based bookstores have traditionally held a monopoly on textbook sales to students, several online competitors in the U.S. are now giving them a run for their money, luring students away with promises of more convenient service and substantial discounts.

Newcomers to the online textbooks sales market are selling textbooks that are in some cases less than half the price charged at campus bookstores. The companies have also launched huge marketing campaigns, flooding campuses with student representatives to get the word out.

According to the National Association of College Stores (NACS), U.S. college students spend an estimated US$5.3 billion annually on textbooks, making the market a prime target for competition.

While brick-and-mortar off-campus bookstores have attempted to compete with their on-campus counterparts in the past, they often proved inconvenient due to their location.

So far, students seem receptive to buying books online. Frustrated by long lines and the monopoly tactics of campus bookstores, students are looking for deals at virtual book stores. Online booksellers, in order to compile a list of the correct textbooks for each course at each campus, are using state public records laws, a practice many schools resent.

In response to their online competition, many campus bookstores have reduced their prices. At Boston's MIT, for example, the campus bookstore is matching the prices found on textbook sites. Some traditional stores are beginning to team up with online sellers to ensure they don't lose their piece of the pie. Others are putting the word out to students that buying online could involve drawbacks, such as complications with deliveries and returns.

According to Eric Weil, managing partner of Student Monitor, only about five percent of U.S. college students bought textbooks online last year but that number is expected to climb as high as 50 percent this year.

Some students say the savings promised by online bookstores do not always pan out, and that may lead them back to the traditional stores. ❑

VarsityBooks.com http://www.varsitybooks.com
NACS http://www.nacs.org

Euros nix XML standard

One of the major next steps in the evolution of the Internet has been delayed due to the rejection of a proposed standard for the XML Internet programming language. A release of the XML (extensible markup language) standard had been planned for February and would have sparked a wholesale rewriting of Web browsers and Internet publishing software to allow higher quality, more interactive and flexible online documents.

Now it's back to the drawing board for the Computing Technology Industry Association (CTIA), the voluntary body that was attempting to develop the new standard.

According to published reports, the source of the disagreement that derailed an agreement concerned differing privacy standards between Europe and the U.S. Europe has very restrictive privacy legislation, which forbids many kinds of automated collection, exchange and use of Internet users' personal information. In the U.S., where such privacy legislation is basically nonexistent, there are few barriers to such information gathering.

The proposed XML standard would have included features for collecting and exchanging user information. In some circumstances, for example in business-to-business communications, it might be a legitimate, mutually agreeable capability. However, it seems as though the Europeans dug in their heels against the "American" way of doing business.

—Jeff Evans

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Wireless telecom booms in Canada

A report found Canada already enjoys the "most affordable" wireless telephone rates when compared with 27 other countries worldwide

TORONTO (NB)—Mobile phone use will sky rocket in Canada in the next four years, according to a study released in September.

Enhanced services and lower prices are cited as two main reasons why more than half of Canadians will reach for their cell phones, says the study by the Canadian branch of technology research firm International Data Corp (IDC).

Increased competition will drive prices down and features such as Internet access and email will attract more users to mobile telephony, the survey found.

IDC analyst Jordan Worth, who authored the report, said the study examined public information, included interviews with senior telco executives and took an overview of the entire Canadian wireless market, to determine what new developments have been introduced and what trends are emerging. The report predicts the mobile phone market will grow 20 percent to 30 percent per year, to include 16.6 million subscribers in 2003, up from 6.7 million in the current year.

The rapid growth will be driven by a new barrage of price wars putting increased pressure on local telcos as more consumers replace traditional phones with wireless devices, Worth predicts.

"Essentially what's happened is that since 1997, since the introduction of Clearnet and Microcell—the new wireless players—into the Canadian market, we've noticed a remarkable growth in the market overall," Worth said. "And that's created a real boost in demand from the subscriber side."

This demand has prompted all of the players in the field to drop their prices substantially, Worth notes, adding, "Another round of price wars is upon us."

A week prior to the release of the study, Micocell Telecommunications Inc announced it was slashing prices for its popular Fido PCS (personal communications services) plan by 50 percent. Other major telcos quickly followed suit.

A recent report by Yankee Group, a Boston-based research firm, found Canada already enjoys the "most affordable" wireless telephone rates when compared with 27 other countries worldwide. As the major players—such as Rogers Cantel, Bell Mobility and BCT Telus Mobility—enter the fray, prices should plummet further, Worth says.

He credits both Microcell and Clearnet for doing "an exceptional job" in crashing the Canadian wireless market, which had formerly been almost a duopoly, saying their aggressive marketing and advertising drive has created brand awareness and positive consumer response. ❑

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Agreement quells registry feud

WASHINGTON D C (NB)—The often bloody three-way battle between the U.S. Commerce Department, the Internet Corporation for Assigned Names and Numbers (ICANN) and Network Solutions Inc, over control over the Internet name space officially ended in late September in an oddly convivial press conference.

Network Solutions, ICANN and Commerce announced an agreement under which Network Solutions will become accredited by ICANN both as a registry and as a registrar, paying upwards of US$1 million in up front fees for the privilege

In return, Network Solutions will retain sole control of the hugely valuable com, org and .net domain registry for at least four more years

"Nobody got everything they wanted, but most of us got a good deal out of it," said ICANN interim president Mike Roberts ICANN is expected to sign the deal at its November meeting in Los Angeles

Once the world's only registrar of names in the com, org and net domains, Network Solutions has been engaged in a bitter duel with the U.S Commerce Department and ICANN over its control of the disputed com registry and its reticence to become accredited by ICANN

ICANN is the not for profit organization that has been charged by the Commerce Department in the U.S with introducing competition into the domain name registration arena

While ICANN has been successful in introducing new registrars to the industry—accrediting nearly 80 new registrars to date—Network Solutions is still the only registry of .com, org and net names and will now remain so well into the next decade

A registrar is a company that sells domain names, while a registry is the constantly updated and critically important list of those names. Under the arrangement Network Solutions must lower the amount of money it charges competing companies to register names to the com registry

The new deal will allow Network Solutions to charge competing registrars roughly US$6 per name per year, rather than the US$9 it currently charges.

- Network Solutions will be allowed to raise that rate only if legislative or regulatory strictures drive up the cost of running the registry

Network Solutions must also upgrade its Shared Registry System (SRS) so competing registrars can sign one-year registration agreements, rather than the traditional two-year terms ❑

CIA to invest in high-tech firms

PALO ALTO, Calif (NB)—The U S Central Intelligence Agency (CIA) has reportedly established a venture capital company to support high tech companies in an effort to ensure American espionage agents are totally on top of the latest information technology and rapidly emerging Internet capabilities

The spy agency has reportedly named Hasbro Toys executive Gilman Louie to head the Washington D C based firm, which will also have a branch in Silicon Valley, according to *The New York Times* in a story published in late September. The nonprofit venture will be called In Q-It, a reference to the master technologist character "Q" from the James Bond movies, the report also said

According to the newspaper the venture underscores the growing diversity of high-tech companies and the accelerated development of computer technologies and will be funded with US$28 million appropriated last year by the U S Congress as part of the CIA's top-secret budget ❑

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SANTA CLARA, Calif (NB)—Internet bookstore Fatbrain.com reports that in the first two weeks of its existence, more than 1,400 authors signed on with its eMatter program.

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So far the posted eMatter content has covered a broad range of professional topics including technology, business, finance, medicine and science, plus a variety of creative subjects such as fiction, poetry, self help and how-to guides.

"Writers are jumping at the chance to become eMatter authors," said Fatbrain.com chief executive Chris MacAskill. "EMatter provides the first secure online publishing of content, whether it's new, existing, or out of print. The response by talented individuals proves there exists an untapped reservoir of creative genius waiting to be discovered by our audience of readers at Fatbrain.com."

Examples of documents that have been uploaded as digital eMatter include: *Venture Capital Opportunities: The CK++ Sourcebook*, *A Guide to Investment in Small Banks* and *How to Make Your Car Last 300,000 Miles*.

So far response from writers has been positive. "With eMatter, I am able to distribute my writing outside of the traditional publishing parameters, which leads me to a quicker deployment, higher royalty rate and easier distribution mechanism," said Joe Matheny who has published both technical books and a science fiction novel on Fatbrain.com.

David Chereb, president of eForecast Institute and author of *Sign of the Times: New Strategies for the Digital Economy*, said, "By publishing via eMatter, it's easier to update content and keep it current. EMatter self-publishing also leads to a reduction in overall costs, resulting in a lower price for the consumer."

While some writers may have dreams of Steven King-like royalties most are zealots about their work and just want to have fun publishing their own quirky material.

"Fatbrain.com has at long last provided a channel to supplement my traditionally-published work with self published material that is somewhat offbeat [and] which traditional publishers in America are unwilling to take a chance on," explains Arthur Asa Berger, a professor at San Francisco State University. "I can now distribute all of my work, regardless of subject matter." ❑

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Careers & TRAINING

Worksheets and the Web

By Helen Bradley

In developing its business suite software Microsoft is blurring the distinction between the desktop and the Internet The result is a variety of tools included in the Excel spreadsheet program that make it easier to move around your worksheets and to publish them on the Web

You don't have to be an HTML (hypertext markup language) expert to use them In fact, you don't need to know too much at all about the Internet to publish a worksheet as a Web page. Programs like Excel, while not HTML editing tools will still create a basic Web page from a worksheet Excel 2000 goes even further, allowing you to publish worksheets that are interactive so that others can work with your data.

In this column, we'll look at some of the Web features in Excel, and how to get your data onto the Internet

Hyperlinks

Hyperlinks are links that you click to move to another Web page, another part of a Web page, to load an image, sound or multimedia file or even to create a mail message They can also be useful within an Excel workbook, allowing you to move you quickly from one worksheet to another, to open another Excel file, or to link to a document in another Microsoft Office application So even if you don't want to publish a worksheet on the Web hyperlinks can still be useful in navigating your own workbooks

Continued on page **103**

Campusaccess.com a one-stop student resource

By Tom Venetis

When Noah Gurza decided to look into graduate programs after completing a degree at Toronto's York University, he thought the internet would be an efficient way of finding out what he needed

Instead, Gurza was frustrated at the hours he spent going to multiple sites and often digging down through a number of pages before coming across the information he needed

"I was searching for information and I was having trouble finding something comprehensive, and with the information about applying to graduate school," Gurza says "So I decided as I was applying that I wanted to create something, a comprehensive online resource for students."

After spending more than a year designing and organizing information he believes will be useful to students, Gurza launched campusaccess.com "a one-stop shop for [student s] informational needs"

Campusaccess.com offers university college and high school students information about how to enter the world of post-secondary education, including details on financial aid, networking tips, study guides, resume-building applications, internship listings and graduate and professional school profiles.

A real time saver

Gurza who is camupsaccess.com's director of Web operations in Toronto says having information about graduate and professional programs available on a single site will help students dramatically cut the time needed to research and apply to the programs.

"If a student wanted to apply to all the law schools in Canada they would have to go to each individual Web site and from that site, dig to find the applications page," Gurza continues. "We timed it and found that if you did it for all the law schools in Canada, it would take over 3.5 hours. What we have done is create a page that takes you to the online forms, and now you have the all the emails [addresses] to request information, or a link to get to the online application page. So instead of three hours, is now takes 16 minutes."

> Other ways the site will add value include offering students free email, personals, travel guides and news and entertainment features

Students are also encouraged to write about their impressions of the programs and the kind of work that was expected from them, so other students can get a flavor of the programs and schools they are interested in.

Resource rich

Gurza believes the most valuable section of campusaccess.com is the Canadian Job Database It offers an abridged version of *The Canadian Student Employment Guide* which lists more than 600 Canadian companies and the jobs, contacts and career options they offer.

"One of the biggest complaints with youth unemployment is that there is a lot of good information out there, but it is not in a place where people can find it," says Kevin Makra, publisher and editor of the *Canadian Student Employment Guide* Makra says depending on the feedback he gets from students he may eventually publish the complete book online.

"I think campusaccess.com by reaching out to students on a number of different levels, it gets them involved and thinking about careers," he adds.

Makra will also be penning a regular column on careers and job searching tips for students He will be joined by other columnists offering students advice on living and working abroad health and nutrition.

Reza Zargham, director of business operations for campusaccess.com says having columnists is one way the site is trying to add extra value for the students Other ways the site will add value include offering students free email, personals, travel guides and news and entertainment features.

Zargham is also looking at bringing corporate sponsors on board to offer students discounts on their services and products through the site Already, Princeton Review is offering campusaccess.com users a 10 percent discount on its training courses for such standardized tests as the LSAT and GMAT, which are needed as part of the entrance requirements for most U S universities

Continued on page **102**

Linux for Newbies Part 4

Navigating in Linux

By Gene Wilburn

Last month we installed Linux and learned how to log in as root and shut down the system. Essential but not too exciting This month we'll start navigating the system. Knowing how to get around is the first step towards Linux mastery

The Linux filesystem is a hierarchy—an inverted tree structure The top level is called root and is indicated by a single forward slash (/) Directories branch off from root and each directory level is preceded by a forward slash. Hence the basic, top-level directory structure looks like

```
/
/bin
/boot
/dev
/etc
/home
/lib
```

and so forth. There are no drive designators, such as DOS's C or D In Linux, everything is accessed via one single tree with many directories and subdirectories Additional drives are simply mounted into the tree structure We'll see examples of this in a later column

Before you actually start navigating the tree, it's time to create a user account For a number of compelling reasons it's a critically good idea not to use your superuser (root) account except for special and administrative purposes You can do severe damage if you make a mistake logged in as root. Logged on as a normal user you limit your potential destructiveness to a much smaller area

Boot up Linux and login as root with your root password

Continued on page **100**

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Navigating in Linux

Continued from page **99**

```
Login: root
Password yoursecretpassword
```

Now you can create user accounts Create at least one for yourself (the name can be up to eight characters long) In my case, my login name is genew, so I would set myself up as a user by typing the following

```
adduser genew
passwd genew
```

This automatically creates my user directory as /home/genew and sets my password. You can create an account with separate password for each member of your family or your workgroup By default, Linux users have a home directory created under /home. The exception is the superuser account, whose home directory is /root. After you've created a normal user account for yourself, exit from your superuser account (by typing exit) and log in again under your user name

```
exit
Login genew
Password mysecretpassword
```

Where am I?

It's easy to get lost in the large tree structure of the filesystem, but it's also easy to find out where you are and get to your desired destination When you first log in, you're always in your home directory, your personal workspace To verify this, type **pwd** at the $ prompt

```
$ pwd
/home/gene
```

In Linux, as in Unix, you can always go home by typing **cd**, the Change Directory command When issued without a qualifier, it means "go home" This is a slightly different behavior than the cd command in DOS, where cd without a qualifier is equivalent to the Linux pwd

Other than that the Linux cd command is very similar to the DOS cd command except the slashes are the right way around (backslashes are a DOS-crudity caused by historical impurities in DOS design)

Hence you can go to the root of the filesystem tree by typing **cd /** You can go directly to a subdirectory by typing in the full path, e g **cd /usr/local/bin** Relative movement is built in To go up one directory simply type **cd** (followed by a space), just as you would in DOS If you're already in /usr/local you can go to /usr/local/bin by typing **cd bin** without the full pathname

Try these cd commands on your system You can verify each result by typing **pwd** (which stands for Print Working Directory)

What's in here?

The basic Linux command for looking around at files and directories is ls which means List Its counterpart in DOS is **dir** The ls command has several flags, or qualifiers you can use to alter the amount and type of information displayed Here are some Linux/DOS equivalents

DOS command	Linux command	Meaning
dir/w	ls	Simple listing
dir	ls l	Long (full) listing
dir/ah	ls -la	Long + hidden files

The Linux ls command has some additional flags that are very handy (e g try out ls -m) You can read up on the options by typing **man ls**. The "man" command reads manual pages, the core built-in documentation for Linux commands. Man pages are not tutorial in nature but they provide maximum info in the smallest space. They will seem arcane at first, but remember **man** is your friend. Use it often You type **q** to exit a man page.

Now practice moving around your filesystem and typing ls with variant flags in various directories. Don't worry if you don't understand what all the files are What you want to do at this stage is gain a sense of comfort in moving around the system. Take a look at the furnishings using **ls** and **ls -la** Except for some cryptic looking hidden files (that begin with a period, such as .bashrc), it's a pretty bare place You need to create your own subdirectories, or folders as they're called in Windows and Macintosh

The command for doing this is mkdir, which works in a manner very similar to the DOS mkdir and the DOS variant md commands Let's say you want a subdirectory in your home directory to store some documentation files you want to write To do this type

```
cd
mkdir docs
```

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Linux and DOS are fundamentally different in one area. Linux is case-sensitive. Hence docs, Docs, and DOCS are three completely different names in Linux and you have to type the right one. This takes a little adjusting to if you come from a DOS, OS/2, or Mac background. The Linux convention is to stick with lower case for most directory names and filenames. It's also easier to type.

If you want to remove a directory, and it's still empty, you type in the rmdir command, rmdir docs. This corresponds to the DOS rmdir and rd commands. It's no coincidence that DOS mirrors these Unix commands. DOS 2.0 borrowed heavily from Unix, but the forward slash was already being used so DOS inserted the awkward backslash in its place.

You can create several subdirectories in a single command

```
mkdir docs/linux ; mkdir docs/linux/tips
```

On the Linux command line, you can issue multiple commands by inserting a semicolon between them.

Who's in command?

It's time to talk a little about the command line we've been using. The little $ prompt you see (or # if you're logged in as root) is part of the "shell"—or Linux command interpreter—you're running. There are several shells available, but the one used by default in Linux is called Bash (an abbreviation of Bourne Again Shell). It is derived from the original Unix Bourne Shell (which was named after a person) with added elements from the Unix C Shell and Korn Shell (also named after a person), plus a few new features.

The Linux Bash shell provides command-line history. If you tap the Up Arrow on your keyboard, it lists the last 1,000 or so commands that you typed. Linux also has a scroll-back buffer that lets you look at things that have scrolled off the screen. Press Shift+PgUp to scroll back a page at a time, or Shift+PgDn to scroll forward.

If you came to Linux from a DOS or OS/2 background and enjoyed writing batch files, you're going to love Bash. The equivalent of batch files are called shell scripts and Bash's built-in programming elements provide a full, rich programming environment. We won't delve into shell scripting much in this series, but any good general book on Linux will provide information on how to get started.

Permissions

Being a multiuser operating system, Linux uses a traditional Unix approach to directory and file permissions. Because you're the system administrator of your Linux box, you'll need to know file permission basics.

To get started, go to your home directory and type the following:

```
$ echo ok > myfile2.txt
$ echo moreok > myfile1 txt
$ ls -l
-rw-rw-r— 1 genew genew 7 Aug 19 10:53 myfile1 txt
-rw-rw-r— 1 genew genew 3 Aug 19 10:53 myfile2 txt
```

The filenames appear on the far right of the line, and are arranged alphabetically. We created these files by redirecting an echo statement into two different filenames. Note that myfile1.txt is seven bytes long and myfile2.txt is three bytes long. They both display genew twice. The first indicates the owner of the file and the second indicates group ownership. By default, Red Hat Linux creates a group that matches your login name and everything you create is stamped with both. This is a security measure that we'll discuss in a future column. The Aug 19 10:53 tells me when the file was created.

The permissions information, -rw-rw-r—, appears at the beginning of the line. To read this, it helps to split it into four fields by mentally inserting spaces, - rw- rw- r—, between the fields. The first part, -, simply informs us that this is a file, not a directory. Directories begin with d. The second field represents the owner's rights. There are three basic permissions in Linux: read (r), write (w), and execute (x). Text files are normally not executable unless they're programming scripts, so the x field is blank, which is indicated by. A shell script file would have rwx for the owner because it's an executable. The third field is group permissions, and the fourth is world permissions (i.e. everyone on the system). Hence the user and the group have read/write access to this file and everyone else has read permission.

We'll spend some time on setting permissions in an upcoming lesson, but if you want to jump ahead: What we've covered in this column are fundamental Unix commands. You can read ahead in any Linux or Unix book. There is also a nice section on this material in the Red Hat 6.0 Getting Started Guide, which is available for viewing at http://www.redhat.com/support. ❑

Next time we're going to leave the basics for a column or two to concentrate on setting up X Window, the Linux graphical user interface. Then we'll return to the fundamentals and learn more about using and administering the system.

Gene Wilburn (njo@interlog.com) is a Toronto-based IT manager, musician and writer who operates a small farm of Linux servers. Back issues of this series are available on his Web site at http://www.interlog.com/~njo/.

Australia studies disabled access

PERTH, Australia (NB)—Australia's Federal Attorney-General Daryl Williams has asked the country's Human Rights and Equal Opportunity Commission (HREOC) to investigate access to e-commerce and other new technologies by older and disabled Australians.

The project is part of the Australian Government's initiatives for the International Year of Older Persons.

Government statistics have shown that fewer than 10 percent of Australians over the age of 55 access the Internet. Older Australians are also less likely to use other technology services; only around 29 percent use electronic methods of transferring funds and around 40 percent use ATMs.

The issues paper can be accessed at the commission's Web site.

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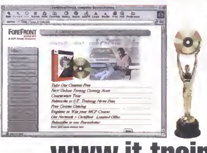

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Continued from page 99

"The response that we have from companies has been very positive and it's something they can use to target this [student] demographic," Zargham adds. "On the student side, most companies already have programs that are specific for students."

Steve Gesner vice-president of interactive services for TD Bank Financial Group is also working closely with campusaccess.com to promote TD's range of student-oriented banking and financial services

"The student segment is one that TD has worked with for many years with our student Visa card and student plans, and a variety of other student services," he continues "And we thought about how we can reach them through the Web. So we are targeting [campusaccess.com] because the target audience is one we are trying to speak to and one that is visiting the site."

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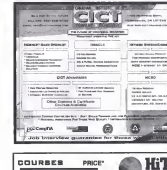

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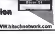

Worksheets and the Web

Continued from page **99**

If you're linking to a page on the Web or on a corporate network, it helps to load your Web browser and connect to the Internet (or other network) before you create the hyperlink. This allows you to open the page in your browser and copy and paste the URL from the address bar rather than having to type it in and risk making a mistake.

If you are creating a hyperlink to another file on your hard drive, save that file before you begin. Open the Excel document that will contain the link, place the cell pointer in the cell that will contain the link and select Insert Hyperlink. In Excel 97 select the Browse button to the right of the Link To File Or URL list box, and locate the document (on your hard drive or on the Web) you want to link to. If the page is open in your browser, copy and paste the URL from your browser window into the Excel 97 dialogue.

If you're linking to another Excel worksheet that has a named range or a Word 97 document with a bookmark, you can link to that named range or bookmark. To do this, select the Browse button to the right of the Named Location In File (Optional) list box and select the named range or bookmark from the dialogue, then select OK to finish.

Back in your worksheet you'll see your new hyperlink. If you right-click it and select Hyperlink then Select Hyperlink, you can change the name of hyperlink to something that better describes the link.

In Excel 2000, you'll see the new Office 2000 hyperlink interface that is now consistent across the Office suite applications—it's a little confusing at first because it has so many options but it is very powerful. Begin at the left of the dialogue, and from the list, choose to link to Existing File Or Web Page, Place In This Document (A Jump), Create New Document to link to or Email Address.

You create a link by simply selecting buttons, typing the details in the text areas in the dialogue and browsing to choose the file or Web page to link to. Always include something in the Text display area as this will be the visible anchor text to your link within your worksheet. You can also add a ScreenTip which is text that appears when the mouse pointer hovers over a link. This feature is supported in Internet Explorer 4.0 and later versions of Microsoft's Web browser software.

More hyperlink options

You can alter the way hyperlinks appear in your worksheet if you alter the Hyperlink Style Excel uses to format all its hyperlinks. To do this, select Format, Style, and in the Style dialogue box, select either Hyperlink or Followed Hyperlink from the Style Name list. Choosing Hyperlink will alter how a link is displayed and Followed Hyperlink will alter the way a followed hyperlink is displayed. Select Modify and alter the formatting options for that link, then select OK. This change will affect the way followed and unfollowed links appear on the current workbook but not on other workbooks.

Remove a hyperlink by right-clicking it, select Hyperlink, Edit Hyperlink, and Remove Link. The link will be removed but any text associated with it will remain in the current cell.

In addition to having text links in your worksheets, you can also create links to images. To do this, insert the image into your sheet using Insert, Picture, Clip Art, select the image, then select Insert Clip to add it to your worksheet. Now, select the image and select Insert, Hyperlink and create the hyperlink as you did above. This time the link is anchored to an image rather than text and, when you place the mouse pointer over it the pointer will change shape and a tooltip showing the link's description will appear.

Web publishing with Excel 97

To publish an Excel 97 worksheet as a standalone Web page, first open the worksheet and highlight the range you want to publish. You can publish more than one range, but start by highlighting one. Select File, and Save As HTML to start the Internet Assistant Wizard. If you do not have this wizard option on your File menu, see the instructions below for installing it.

The Ranges And Charts to Convert list will contain the range you selected. To add another area from your worksheet, select Add, highlight the range and click OK. The order of the areas in the list box will be the order in which they'll be published on your Web page. You can alter this using the arrow buttons to the right of the list box. When you are finished, select Next.

Continued on page **106**

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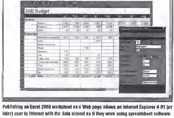
Worksheets and the Web

Continued from page **103**

In Step 2 of the wizard process you have to choose to create an entire Web page from your spreadsheet or simply a table that you want to include in a Web page created separately with a Web page authoring tool. For our purposes, we'll go through the process of creating a standalone Web page. So, select the option Create An Independent Ready-To-View HTML Document That Contains Your Formatted Data (Header, Table And Footer Will Be Created), and click Next.



Publishing an Excel 2008 worksheet as a Web page allows an Internet Explorer 4 01 (or later) user to interact with the data almost as if they were using spreadsheet software.

In Step 3 you can enter the additional information that you want on your Web page. In HTML, the Title is text that appears in the Web browser's title bar and does not appear on the page itself. The Title text also appears in a favorites list if a user bookmarks the page, and is displayed by a search engine if your page is included in a user's Web query. So you'll need a Title for your page that is brief yet descriptive.

Any text you enter into the Header area is displayed on the Web page as the page heading. It will be in fairly large type so make it brief. You can also add information that will appear below the header, and you can enable or disable options for including horizontal lines on your page to separate the various elements. Add your name and email address if required, and when you're finished, click Next.

In the final step, select how you want to save your finished HTML page. You can save it as a standalone HTML file or add it to your FrontPage Web. Unless you have a FrontPage Web, save the file as a standalone page and select Finish.

You can view your page prior to uploading it to the Web by opening your browser, selecting File, Open, Browse (in Netscape Navigator, select File, Open Page, Choose File), select your new file and click Open. This allows you to make any final corrections. To post your file to a corporate intranet or to own Web site, you

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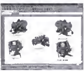
can use FTP software as you would when uploading data to any other Web page

The document created by Excel 97 is a standard HTML document that can be edited using an HTML editor or a word processor that saves text files

Office 97 Internet Assistant Wizard

If your Excel 97 File menu does not have a Save As HTML option, you'll need to install the Internet Assistant Wizard. Select Tools Add-Ins and from the Add-Ins Available list select Internet Assistant Wizard and click OK.



Some images and a little imagination allow you to create a worksheet that acts like a menu with links to your most frequently used workbooks and favorite Web sites

If the Internet Assistant Wizard isn't in the list you'll need to install it from your Office 97 disc. Run Setup from the Office 97 discs and select the Add/Remove button to add this component. From the Options list select Web Page Authoring (HTML), leave all the other options that are checked as they are and select Continue to install the tools. When Setup is complete, return to Excel and install the Internet Assistant Wizard from the Excel Tools menu as explained above

Web publishing with Excel 2000

You can publish Excel 2000 workbooks to the Web as static data or as interactive spreadsheets and charts. Interactive sheets and charts allow users who have Office 2000 installed to interact with the data on the Web page. For example, they can rearrange the data by sorting it, alter the figures to test scenarios and even write their own formulae. There is one small proviso, you can only publish a single sheet as an interactive Web page and not the entire workbook. However you can publish an entire workbook as a static page.

To save a sheet so it is interactive, select File, Save As Web Page, choose Selection: Sheet, enable the Add interactivity checkbox and click Publish. In the Choose box, select

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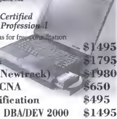

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If you have Internet Explorer 4.01 (or later) with the Microsoft Office Web Components installed you can view the page and test the interactive elements. Experiment with changing the figures, build new formulae and use the options accessible from the buttons along the top of the worksheet (my favorite is the Property Toolbox) to interact with and format your data. You'll be amazed by what you can do

Excel 2000 round tripping

An alternative to publishing to the Web is to use the new option to save your entire workbook as an HTML file If you do this your workbook can be opened in a browser and it can also be "round tripped" and opened again in Excel 2000, without losing any detail

To do this open a workbook and select File Save As Web Page give the file a name (with an .htm or .html extension) This time select Save Close your Excel file and open the HTML file in Internet Explorer using File, Open The workbook will appear in your browser window To see how easily it can be round tripped select File, Edit With Microsoft Excel For Windows and the workbook will open in Excel. Notice how the formatting and other worksheet details are intact and, despite the fact that the workbook is static in the browser window, the formulae are intact in it when it is returned to Excel ❑

Next month we'll have a change of pace and take a look at some neat options for jazzing up headers and footers in your word processor documents I'll also respond to a reader's query and explain how you can include chapter numbers and page numbers in your Word headers

Helen Bradley specializes in writing hands-on tutorials Her columns appear regularly in a number of publications in the U.S., U.K. and Australia as well as *The Computer Paper* Helen welcomes reader feedback and you can contact her at helen@helenbradley.com

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Quick tips for Outlook 98/2000

By Helen Bradley

If you're using Outlook 98 or 2000, you have more than a great email program at your disposal. In addition to managing your contacts and to-do list, it does a number of things you may not be aware of. This month we lift the lid on some of the features of Outlook.

Outlook versus Outlook Express
Outlook Express comes with Internet Explorer and is a cut-down version of Outlook. It has fewer functions and a different menu structure so commands that work in Outlook won't necessarily work in Outlook Express.

Getting Outlook 98
Outlook 97 was included in the Office 97 suite and was later updated to Outlook 98. The upgrade was significant and, at the time, free for users who had Outlook 97. Since the release of Office 2000 the Outlook 98 download is no longer available and it's difficult to find for sale on the Internet. However a version was also available on a CD-ROM with several computing magazines and if you have one lying around, it's worth checking for the disc.

Junk mail
Outlook will filter out junk email as it arrives in your Inbox. To activate this filter select the Inbox, click Organize and select Junk E-Mail. Using the options, select to move junk email to another directory or highlight it with a color so it's readily identifiable. By selecting Click Here you get more options including a link for downloading updated junk email filters.

Photos in contacts
To add photos to your Contact records, select the image in a graphics program and copy it to the Windows Clipboard. Open Outlook, select Contacts and double-click the person's name to open their record. Select the General tab and click in the Notes area at the bottom of the screen. Right-click and select Paste to insert the image. You can then size it to fit the area.

Software updates
Keep an eye on Microsoft's Outlook 2000 Web site (http://officeupdate.microsoft.com/welcome/outlook.htm) for product updates. They can include free downloadable patches, forms and stationery.

Sticky notes
Put aside all your paper sticky notes and use Outlook's own digital version to create the computer equivalent. You can use them as to-do list reminders or to record data you want to be readily available. To create a Note select File, New, Note, then type your text. Move the Note anywhere on the screen.

Journal
Behind the scenes, Outlook's Journal automatically records everything you do in not only Outlook but also Office 97 or 2000. To view its records, select Journal from the Folders list and browse the display on the screen. All the Office files you have worked on will be listed in the display.

To-do list
Outlook will maintain your to-do list and display it for you so you can track projects you're working on. To create a Task select File, New Task, then fill in the form with details, start and end dates and reminder information. Select Save and Close when you are finished. You can view your tasks by opening the Tasks folder and change the view by selecting View, Current View and select from the views listed or customize one to meet your requirements.

Recurring appointments
Outlook allows you to quickly create recurring appointments, such as a monthly meeting, so that you only have to add the details once. Select File, New, Appointment, enter

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Browsing with Outlook 2000

Outlook 2000 is now allows you to surf the Web through its interface View Outlook's Web toolbar by selecting View, Toolbars, then Web Type a Web address into the Address box and the page will load The Favorites menu is the same as Internet Explorer's and the Web toolbar contains Back, Forward, Search and Home buttons.

Multi-task in Outlook

By default, Outlook shows only one open application at a time. You can, however open an application in a new window by selecting the folder, right clicking it, then choosing Open in New Window With two windows open you can drag and drop items from one to another. If you drag a contact name into the Outbox for example, Outlook will open a new message window ❑

Helen Bradley can be contacted at helen@helenbradley.com

Defense Almanac 1999

NB—The Defense Almanac provides a variety of information and statistical material about the U.S. Department of Defense—its people organization equipment and funding. If you are looking for any type of statistic on the armed forces of the U.S then this is the place to go!

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Did Marco Polo really go to Far East?

NB—A Web site for the Asia Quest expedition is now online In the tradition of MayaQuest, AfricaQuest and GalapagosQuest an online audience of students will direct a team of experts and adventurers as they try to solve one of the greatest mysteries of all time: Did Marco Polo really go to the Far East? If he did go, did he only tell half of what he saw, or did he see half of what he told?

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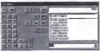
The Visual Basic Tutorials Part 5

Statement syntax: Part 2

By Jacques Surveyer

In our last tutorial, we looked at Visual Basic (VB) statements in the context of the VB debugger and Immediate Windows and how they help in understanding how VB statements work and debug programs Three major VB statement types were emphasized—assignment, conditionals, and iterations In this tutorial, we will spend some time on the iteration or loop statements of VB and return to conditionals and the use of Select Case and how it simplifies a GUI calculator application



Calculator program

Loops like conditionals are the bread and butter of programming logic Of course, any loop can be done with conditionals like in the first column of Table 1

But also, as can be clearly seen in Table 1 using loop statements is much easier and less prone to mistakes In the conditional Loop we have to add an extra variable, **low** and a conditional **If**, along with an **On GoTo** In contrast, the **For** loop is just three lines long. Note the use of the **Ubound()** function It returns the length of the array **Ival**. So the **For** loop just sums the values in the array **Ival**

VB provides five types of loop statements, as shown in Table 2. One of these the **While Wend**, has been made obsolete by the **Do** loop so we will not cover it in any detail. The **For Each** is used mostly for objects so it will be covered later when we discuss that topic The **For** loop as we have just seen, is used primarily when one needs to count through a series of values often contained in arrays The **Do** loop is used to continue a loop **While** a condition is true or **Until** a condition is broken, as shown in the examples in Table 2.

The **Do** loop is especially powerful in VB because it has two forms **Do /While/Until** guarantees at least one iteration of a loop will be done The second type **Do While/Until ... Loop**, screens the loop condition right at the top so it s possible no iterations will be done Both types are useful When reading buffers and checking data structures the first is often used while **Do While/Until ... Loop** is used in error checking like end of file and others

Unlike the **While ... Wend** the **For** and **Do** loops provide an **Exit** statement. The **Exit**

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statement is important because often a loop will have two or three conditions for exit that need to be tested somewhere in the body of the loop. A test like If **xx < xMin then Exit Do** causes the loop to be immediately exited and the next statement beyond the loop is executed. You can see this by trying it yourself using VB's debugger as outlined in the last tutorial.

One statement VB lacks is the **Continue** statement. There are times in the middle of a loop when you want to stop testing and just go to the next iteration in the loop. One can approximate this with nested **Ifs** but the logic of the nesting can quickly become quite complicated and obscure to follow.

VB does not have a **Continue** statement but its very powerful **Select Case** conditional statement fills in quite well in many cases.

Table 1

Comparison of loops

Loop using conditionals

```
"Dim ii as Integer, Ival(100) as Integer,
sum as Integer"
' some code that reads in values to Ival

...
'Now we want to sum the values in Ival
ii=1
sum=0
Dim isw as Integer
Loopback
sum = sum + Ival(ii)
ii=ii+1
If ii > Ubound(Ival) Then
isw = 2
Else
isw = 1
End If
"On isw GoTo Loopback, Endloop"
Endloop
```

Loop using For statement

```
"Dim ii as Integer, Ival(100) as Integer,
sum as Integer"
' some code that reads in values to Ival

..
'Now we want to sum the values in Ival
sum = 0
for ii = 1 to Ubound(Ival)
sum = sum + Ival(ii)
Next ii
```

Table 2

VB iteration or loop statements

Loop type	Examples	Notes
Do While/Until ... Exit Do ... Loop Conditional 0 or more iterations loop	Do Until cnt > 100 cnt = cnt + 1 Loop	This loop checks the condition first then proceeds through loop if True.
Do ... Exit Do ... Loop While/Until Conditional 1 or more iterations loop	Do Input Line #fileNo, buffer Loop While Not EOF(fileNo)	This loop does at least one iteration then checks if more are needed.
For Each ... Exit For ... Next Count through an array or collection	For Each dVariant In dblArray sum = sum + dVariant Next	The "In" group can be an array or any collection of objects
For ... Exit For ... Next Classic counting loop	For ii = 100 To 0 Step -5 If ilval(ii) > 100 Then Exit For Next ii	The Step value is optional and defaults to 1. The counter variable must be numeric but not an array.
While ... Wend Conditional loop	While IsNumeric(Mid(inString, ii, 1)) ii = ii + 1 Wend	While loop has been superseded by Do While/Until, for example, there is no Exit.

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The best way to show how a **Select Case** works is to give an example

```
Select Case iswitch
Case 1 Print a short report
itype = "short"
call PrintReport(itype)
Case 2,3,4 Print a long, detailed report
itype="long"
call LongReport(itype,isw)
Case 5 Graph the output
call GraphReport()
Else Case All other cases or values of iswitch are
an error
MsgBox iswitch + "is not expected Error"
End Select
```

This statement works just about the way it reads. If the variable **iswitch** equals **1**, a short report is printed. If the value of **iswitch** is 2, 3 or 4, a long, detailed report is to be printed. If the value of **iswitch** is 5, a graph is to be printed. And all other values of iswitch are an error so an error message is issued with the **Else Case** catching all other values.

Select Case statements can be nested in one another. This turns out to be helpful in graphical user interface (GUI) programs where several conditions have to be tested. The calculator program shown here uses a big **Select Case** to identify which calculator button is pressed and then, based on that information, performs the requested computation.

But for some button presses we want to know which mouse button was used. A nested **Select Case** is one way to handle this condition. (If you send an email to jlsurv@inforamp.net I will send a zipped file with the VB code for the calculator which uses nested **Select Case** statements.)

There are two other types of conditional statements, or better yet, functions. One is **Switch()** and the other is **Choose()**. Try these examples in VB's Immediate Window (**View | Immediate Window** or **CTRL+G**)

```
i = 3
print Switch(i<0, 234,i=0  456, i >= 2, 51, i=
i,999 )
print Choose(i,  100  0, 100)
```

Switch() works by returning the value immediately after the first condition that evaluates to **True**. In our example, **Switch()** returns **51**. **Choose()** on the other hand uses the first variable as an index and returns that value—**100**, in our example above. Note that both **Switch()** and **Choose()** return **Null** as their value if no condition is satisfied (**Switch()**) or the value of the index variable in **Choose()** is less than or equal to zero or greater than the number of choices available. In the **Switch()** example, by putting in the condition I=I, **999** at the end we guarantee that it will always return a default of **999** if none of the other conditions are satisfied.

Summary

In this tutorial, we have completed the conditional statements by looking at the versatile **Select Case** and taking a glance at the **On ... GoTo, Switch()** and **Choose()**. As well, we have examined most of the iteration or loop statements in fair detail.

In the next tutorial we will look at Operators and Assignments to complete a three part mini-review of basic VB grammar. After that we'll return to visual programming in Visual Basic. ❑

Reading list

Beginning VB6 (published by Wrox) covers conditional and loop statements on pages 56-103.

VB6 Black Book (published by Coriolis) covers the same statements on pages 104-110.

Check my Web site for more links to VB resources.

Jacques Surveyer is a consultant and writer. He can be reached through his Web site at http://www.inforamp.net/~jlsurv.

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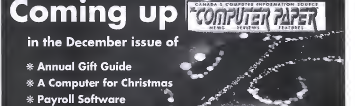


Canadian Telework Day

A conference you don't have to go to

By Bob Fortier

The Canadian Telework Association (CTA) is holding a conference Oct 27 and you are invited However, you can't get to it by car or bus because there is no physical conference location

The only way to attend this event is to drive the information highway to the Canadian Telework Day Web Site (http://www.ivc.ca/td99.html) The site will host an Internet-based celebration of Canada's one million teleworkers their employers, as well as select telework initiatives The site will also feature endorsements from Canadian politicians business leaders, and members of the international community

Telework benefits

Telework Day was developed by the CTA to provide Canadians with information about telework—employees working from home—and its many benefits.

The day will highlight the positive impacts of telework on Canada's workforce, environment transport and economic development. Those highlights include helping employers attain business goals by reducing office space costs, turnover, absenteeism stress, and employee traveling time and expenses. For the employee, the positive impacts include improved productivity, morale and work/life balance. Telework also helps companies act as good corporate citizens by reducing the number of people commuting

Who is telework day for?

Canadian Telework Day is for anyone interested in telework, including those who are already participating in this type of work future teleworkers their managers and business and government leaders who understand that telework holds the potential to fundamentally improve our economy cities, climate, transportation and health systems as well as working and personal lives

Thanks to information technology, Canada's one-million strong teleworkforce is expected to grow by 50 percent by the year 2001 Telework is a reality that is becoming difficult for employers to ignore.

Interest in telework high

Findings from an EKOS Research study indicate Canadian employees are enormously receptive to telework, and that it has enormous implications for employee recruitment, retention and compensation.

"These are the kinds of findings which are hard for employers not to notice. They might make many of them pay closer attention to telework and see it as a strategic way to recruit or hold on to key employees" says Frank Graves president of EKOS Research Associates

Among the EKOS Research findings:

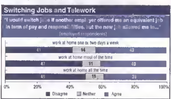
- Fifty-five percent of Canadian employees want to telework
- Sixty three percent expect to telework in the future
- More than 50 percent of Canadian employees feel their jobs, or parts of their jobs are "teleworkable," even if for only one day a month
- Forty-three percent would switch jobs if another employer offered them an equivalent job, but allowed them to telework
- A full 33 percent of employees would rather telework, even on a part-time basis, than get a pay raise of up to 10 percent
- The positive impacts of working at home far outweigh the negative impacts, especially with respect to finances, family life, time pressures and working hours.
- Most teleworkers split their work between home and office, working part of the week in each.

Graves says, "Even if we were to discount the numbers significantly, we are still talking about a sizeable number of employees who could be lured away to another company or would be willing to trade off pay increases We are also talking about employees who for the most part are satisfied with their jobs."

Joining the CTA

The CTA is a non-profit association dedicated to promoting telework in Canada Members include individuals, academics, corporations of all sizes, and all levels of governments. Membership is free and you can join online (http://www.ivc.ca) ❑

Bob Fortier is president of the Canadian Telework Association and sits on the board of the International Telework Association. He is also president of InnoVisions Canada a telework consulting firm He can be reached at bob@ivc.ca



Source: Canadians and Telework, November 1998, EKOS Research Associates Inc.

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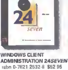

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Guide covers newest Palm devices

By Keith Schengili Roberts

Last year, O'Reilly published the first edition of this book, which was a great all-purpose guide for PalmPilot users It was the most popular book on the PalmPilot, and one of the top 10 best-selling computer books PalmPilots—and subsequent generations of Palm Computing devices—continue to dominate the handheld computing market One strategy parent company 3Com has taken in marketing the Palm devices is to create models for particular types of consumers: the sleek, sexy (and pricey) Palm V several variations of the cheaper more utilitarian Palm III and the Palm VII for those who want wireless connectivity The new edition of *The Ultimate Guide* covers all of the Palm devices, from the original Pilot 1000 to the Palm VII It's an excellent update to an already excellent reference

This edition of *The Ultimate Guide* is about 100 pages longer than the original. Coverage of the newest Palm devices accounts for some of the extra bulk, as does a chapter devoted to using Pilot devices with Macintosh computers What is missing in this edition, however, is the chapter on how to code your own programs for the PalmPilot (This information is now covered more thoroughly in O Reilly's *Palm Programming: The Developer's Guide*. This reference includes a CD ROM created by O'Reilly and PalmCentral com—the largest online source of Palm programs—which contains a searchable database of programs for your Palm.)

The Ultimate Guide begins by looking at the basic hardware that defines the various editions of Palm handhelds It then covers the software in detail including the Address Book, Date Book and Memo Pad. One chapter looks at how to get the most out of the PalmPilot Desktop and how the HotSync function works Two chapters on the "undiscovered" Palm are devoted to advanced text editing and reading, and to the world of multimedia, focusing primarily on pictures and (believe it or not) music These chapters, and the sections on using the Palm with databases, email and Web browsing will please hard-core Palm users everywhere.

Having said that, much of this book cov

Continued on page 120

PalmPilot: The Ultimate Guide, 2nd Edition

Author David Pogue
Publisher O Reilly & Associates
Contact: O'Reilly & Associates
Tel: 800-998-9938 http://www.oreilly.com
ISBN. 1-56592-600-5
Softcover 597 pages 1999
Comes with CD-ROM
Price $45 95

Rating

Information content: ***
Readability: ****
Intended for: Beginner to Intermediate
Overall Rating ***1/2

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Guides to Office 2000

Part II: More help for mastering Microsoft's monster suite

By Keith Schengili-Roberts

In the October Issue of *TCP*, we looked at four of the hundreds of recent books devoted to Microsoft Office 2000 and its various applications In this issue we look at another five titles While this two-part roundup barely scratches the surface of the information available on this popular suite of office software it should give you an idea of what s out there and what approaches various authors are taking in tackling the subject. Each title listed here has its own approach, tailored to meet the skill and knowledge of a particular type of users Deciding what approach is best suited for you is a decision you have to make—but one that is made easier when you at least have an idea of what is available out there (Note Part one of this review can be read online at the *TCP* Web site http //www tcp ca)

Teach Yourself Office 2000 in 21 Days

Author Laurie Ulrich
Publisher Sams
ISBN 0-672-31448-7
Softcover 668 pages 1999
Includes CD-ROM
Price $44 95

This book takes an approach similar to that of Sams' *Teach Yourself Microsoft Office 2000 in 24 Hours* which was reviewed in the October issue Essentially, instead of breaking topics up into hours of individual lessons this book breaks them into days of individual lessons, which are about the same length as those in the guide from Sams. Each chapter is a "day" and each day provides a lesson on a particular Office 2000 feature

The author also works as a computer teacher, specializing in Microsoft Office, and it shows—she uses her experience in the classroom well, addressing topics of practical interest to the beginning user. Each lesson focuses on a particular goal, and lays out the steps necessary to achieve it Topics include enhancing a basic Word document, building a spreadsheet in an Excel workbook, and managing your time with the Calendar While learning how to do the task, you learn a lot about specific Office 2000 programs and their functions along the way

This is another good book for beginners who find they learn best with goal-oriented lessons within a regimented schedule

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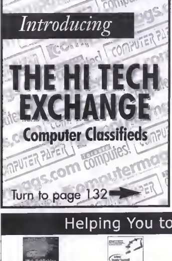
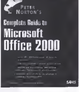


Peter Norton's Complete Guide to Microsoft Office 2000



Author: Peter Norton, Jill Freeze and Wayne Freeze
Publisher: Sams
ISBN: 0-672-31174-7
Softcover 792 pages 1999
Price $44.95

Anybody who has been involved with computers for any length of time will recognize Peter Norton's face, which has long graced the packaging of Norton utility software and books. While it is highly doubtful that Norton contributes much these days to the two-decade-old series of books, they continue to bear his name and to be synonymous with good, practical advice aimed at "non-dummies."

This title is typical of previous books in the series. It was written, for the most part, by two long-time computer book veterans Jill and Wayne Freeze, who together have written a dozen technology titles. The Microsoft Office guide is aimed at the intermediate professional user: one who has some experience with a previous incarnation of Microsoft Office, and who wants to get up to speed quickly on the latest edition of the suite.

The book covers all of the major programs in the suite: Word, Excel, Outlook, PowerPoint, Publisher and Access. After covering some of the basics of installation and customizing the look and feel of Office applications and cross-program applets, it gets into the nitty-gritty of how to get professional results using the various tools included with the suites. It goes beyond the basics and straight into the suite's power user functions, and even includes a good section on creating Visual Basic for Applications scripts to help automate common tasks.

All in all, this is a solid book on Office 2000 for those who are ready to move beyond the basics. Peter Norton would be proud.

The Complete Reference: Office 2000

Author: Stephen L. Nelson
Publisher: Osborne
ISBN: 0-07-211858-5
Softcover 1,040 pages 1999
Comes with a CD-ROM
Price: $53.95

This tome is the heftiest of the nine titles reviewed in this two-part roundup. If you have to know just about everything about Office 2000, this is the book for you.

There are two ways to tackle this text: read it straight through, working with the sample documents and templates on the included CD-ROM, or approach it as a reference when you need more detail about a specific Office 2000 function. *The Complete Reference* is liberally illustrated and seems to cover the gamut of likely uses for Office 2000 applications: desktop publishing, writing scholarly papers in Word, developing advanced modeling techniques in Excel, customizing a presentation in PowerPoint, and so on. The book approaches a program's functions the way most users would.

Despite its title, this reference is not as "complete" as it claims, paying only scant attention to FrontPage and the other "secondary" programs in the suite. However, if you like a book that is otherwise thorough and task-oriented, this is probably the book for you.

Office 2000 Made Easy

Author: Alan Neibauer
Publisher: Osborne
ISBN: 0-07-882585-7
Softcover 644 pages 1999
Price $39.95

The sub-title for this book is *The Basics and Beyond*, which pretty much sums up its approach. *Made Easy* is geared primarily towards beginning Office 2000 users, stepping them through the various functions in each application.

In discussing formatting documents in Word, for example, this book first looks at the basics such as changing fonts, aligning

Continued on page **120**

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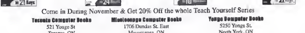
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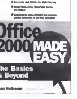
Guides to Office 2000

Continued from page **118**

text in the margins, changing line spacing, indenting paragraphs hyphenation, dealing with paper size and how to add backgrounds and shading. It then goes "beyond" the basics and looks at how to duplicate existing formats used in previous documents, dividing things into sections, formatting printouts for envelopes, and using drop caps Many sections are then summed up in *Putting it to Work* mini-sections which provide simple real-world examples that use the skills described in the section.



If you like to sit down with a book and work through step-by-step examples, this is a good book for you The piecemeal breakdown of skills is a great help for those times when you forget how to do a specific function *Made Easy* is definitely a beginner's guide, however.

Microsoft Office 2000 Professional Fast & Easy
Edited by Faithe Wempen
Publisher Prima Tech
ISBN 0-7615-2032-5
Softcover 813 pages 1999
Price $41 95

This book is quite different from many of the books in this roundup. It is a compilation of sorts, all of its content is culled from guides on specific Office applications that are also published by Prima. *Fast & Easy* is more of a picture-book with words The material is pretty basic stuff—which is what you'd expect from a book that is short on words and long on pictures.

This book is for the absolute beginner who prefers pictures to voluminous text, and would be a helpful reference for looking up long-forgotten specific functions in the future, but would not otherwise serve as a particularly good Office 2000 reference ❑

Guide covers newest Palm devices

Continued from page **116**

ers the same material as the first edition. If you already have a copy of the original and a Palm III or older Palm handheld, there is no compelling reason to "upgrade" to the new guide. However, if you have a more recent Palm device, or you use one with a Macintosh, you'll find lots of useful information in the new sections It is also worth noting that Palm software has matured a lot in the past year, and the overviews of the latest software are invaluable.

If you're a new Palm handheld user and are looking for a book that will continue to be a handy reference, pick up a copy of *The Ultimate Guide.* ❑

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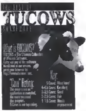

By Scott Swedorski

We all experience Internet disconnections, whether due to a time limit imposed by your Internet service provider (ISP), a communications error between your computer and your ISP or connection inactivity. Modem dialers or automatic dialers, can help limit the frustration of disconnections and make logging on to your ISP easier and more productive. They allow you to connect with only a click or two, and automatically reconnect if you're disconnected.

Modem dialers are also great if you use more than one ISP since most computers aren't equipped to easily deal with multiple connections. They also "ping" your ISP every so often to keep the connection active and keep a log of your online time, which is great if you don't have an unlimited access account. Modem dialers can help make your online experiences more enjoyable and cost effective.

Net Pal

Version: 1.2b
Revision date: July 27
Size: 311.9KB
Licence type: Shareware
Cost: $18
Evaluation period: 30 days
Home page: http://www.kburra.com
Also available: Windows NT version

Net Pal is a nifty little program that redials and automatically reconnects your modem while bypassing the standard Windows Connect To and Connected dialogues. Net Pal allows you to set a minimum connect speed, and will hang up and redial until your

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Turn to page 132 ➡

connection is at least that fast. It tracks your online time, displays your IP address, and logs your usage history

ConnectionPal Professional

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Version 6.4
Revision date Aug 7
Size 2 3 MB
Licence type Shareware
Cost. $17
Evaluation period: 30 days
Home page http://www.connect-pal.com
Also available Windows NT version

ConnectionPal Professional is a very versatile dialup utility that includes a multitude of useful features Some of the many configuration options include an automatic email checker, cost calculator, automatic redial and a feature that automatically launches programs when a connection is made ConnectionPal Professional can track costs and connection times separately for multiple ISP accounts.

DUN Manager

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Version 1 26
Revision date Sept. 18
Size 845 9KB
Licence type Shareware
Cost. $42
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Home page http://www.megsys.co uk/dunman/
Also available Windows NT version

DUN Manager is an application that simplifies and enhances dialup networking and remote access services. Features include single-click connection start up and hang up, monitoring of connections started by other applications, automatic disconnection options so you don't remain online by accident, and detailed connection activity logs that include modem diagnostics and more

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Version 2 3
Revision date Nov 5, 1998
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Licence type Shareware
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ly and automatically With a double-click on the icon in the system tray your computer starts dialing and, if disconnected, reconnects you automatically When you want to disconnect, double-click on the tray icon again. Your connection drops, but the tray icon remains and can be double-clicked the next time you need to get online.

NetLaunch

Version: 3 14e
Revision date: April 30
Size 152KB
Licence type Freeware
Home page: http://www.blackcastlesoft.com/netlaunch
Also available. Windows NT version

A very well designed program, NetLaunch performs many dialing tasks for you. You can ask it to connect online at scheduled times, then launch the programs you specify NetLaunch can also be used for establishing initial connections, to close specified programs when going offline (or online for that matter), reconnect if disconnected, and much more.

NetSwitcher

Version 2 08
Revision date: Aug 7
Size 587KB
Licence type Shareware
Cost $8
Evaluation period 15 days
Home page: http://www.netswitcher.com
Also available. Windows NT version

If you use multiple ISPs, NetSwitcher is for you It helps manage multiple connections by giving you control over configurable network parameters NetSwitcher presents them on one menu (unlike the half-dozen you normally have to go through) and allows you to save and restore different setups. You ll no longer have to hunt through the control panels looking for every last setting that needs to be changed. It allows you to select a different setup with a click of the mouse.

Yonc

Version 1.03
Revision date: June 28
Size 893KB
Licence type. Shareware
Cost $15
Evaluation period. 30 days
Home page. http://www.smise.com
Also available Windows NT version

Yonc is a great program that allows you to dial up with a single mouse click and will redial if your connection is busy It also gives a graphical view of line performance as well as other information about your connection. Yonc will check multiple email accounts while online and record online time and cost and put it all in a handy log file Yonc will even keep your Internet connection active so you can avoid those annoying disconnects from lack of activity You can also use it to disconnect your line after a specified time even if you are using tools like ICQ

Macintosh picks

OT/PPP Strip

Version 1.0.4
Revision date: Dec 8, 1997
Size 81KB
Licence type Freeware
Home page http://home ici.net/~djw/software/index.html

OT/PPP Strip is a control strip module that gives you a handy way to connect and disconnect from your ISP. It also shows you the length of time you ve been connected and displays uploading and downloading activity with lighted arrows It's simple and elegant.

PPP Menu

Version 2 0.6
Revision date: Jan 19
Size 147 5KB
Licence type Freeware
Home page. http://www.rockstar.com

PPP Menu is a mini-utility that installs a system menu for controlling Internet connections You can use the menu to open and close connections and add items to launch from the menu It provides you with a one-stop dialer and launcher.

PPPop

Version 2 0.4
Revision date March 17
Size 914KB
Licence type. Shareware
Cost $20
Home page: http://home1.gte.net/frio/

PPPop simplifies the process of connecting and disconnecting, provides a visual indication of your connection status, enables you to quickly change dialup numbers and Internet accounts, tracks online time, and launches applications and URLs. ❑

A higher level of Net experience

NB—What a promise from this new portal! EZSurfer2000 Magazine says it will not only deliver up-to-the-minute world news, weather, stocks, sports, music, TV and movies but also "take you to a higher level of Internet experience." The service requires you download a 4 MB file to access the content and progress to the promised higher level.

http://www.ezsurfer.net

Women with DisAbilities

NB—To help women overcome social, financial, physical, or other [illegible] barriers to health care services and information, the National Women's Health Information Centre (NWHIC) created the Women with DisAbilities Web site It puts a wealth of useful information together into one place for women with disabilities, caretakers health professionals, and researchers.

http://www.4woman.gov/wwd/index.htm

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Carmen targets game generation

By Jean Allen Ikeson

For 15 years, the Carmen Sandiego titles have been some of the most popular educational games. Using a crime fighting format, they test kids' knowledge of geography with the ultimate goal being the capture of the title character. The newest release in the series, Carmen Sandiego's ThinkQuick Challenge, has little in common with the old girl, but kids aged eight to 12 are going to love it!

This new game has a multiplayer option, allowing up to four kids to play simultaneously. This is particularly helpful if your offspring always fight over who gets to play the new computer game first.

To suit differing temperaments, the game also allows kids to choose to play competitively or cooperatively. If, in your home, a younger child invariably winds up in tears trying to keep up with an older sibling, this feature can help provide a bit of peace. While kids can work competitively when answering questions to defeat the KnowBots they must work cooperatively when they approach Carmen Sandiego's hideout.

In the multiplayer setup, players share

Carmen Sandiego's ThinkQuick Challenge

From: The Learning Co.
Tel: 510-792-2101 http://www.learningco.com
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the keyboard but each has his or her own key that works like a quiz show buzzer. Buzz first and you get to answer questions that give you knowledge points answer incorrectly and you lose capture points, which are important when apprehending Carmen.

The ThinkQuick Challenge moves away from the geographical focus of previous Carmen Sandiego titles While players still travel virtually through 13 countries to find clues, the questions in this game are not limited to geography In each country players are asked one geography question and one on another topic, such as English history, life science physical science, art, music or language arts.

The narrators in this game are the KnowBots (knowledge robots), who provide wacky instructions and encouragement and complain loudly when kids jump the starting gate They also explain answers with additional information that can come in useful for subsequent questions

From an educational perspective both this feature and the fact that kids must read quickly and with comprehension to answer the questions within a time limit strengthens both reading and listening skills This is particularly important for kids who have trouble concentrating on reading listening and following instructions, or for those with an identifiable attention deficit disorder The game format and competition provides a wonderful motivator for these kids

ThinkQuick Challenge includes 30 "missions" seven subject categories, and nine question formats that work together to provide more variety Additional questions can also be imported

The Carmen Sandiego makeover goes beyond the questions, content and format ThinkQuick Challenge retires the 1950s detective look of previous titles and takes on a new futuristic design.

One complaint kids have with many educational games is that they lack the quick play and complexity of strategy games Over the past few years, the Learning Co has sought to correct this and has come closer than ever with ThinkQuick Challenge This game pushes the competitive "fun" quotient a notch closer toward that of pure gaming.

But the proof of the pudding is in the tasting after three hours of play my 10- and 13 year-old boys were still giggling whooping and alternating between helping each other catch Carmen Sandiego and fighting to see who could answer questions first.

For Canadians, the one flaw of this game is its concentration on U.S history and geography Canadian kids are likely to be stumped when, for example, they are asked to match the names with the shapes of states in the U.S Since The Learning Co sells software around the world, it is surprising that it does not develop "home" versions and international versions of its popular educational titles. ❑

Find out who owns the Web site

NB—Want to know who owns a particular Web site? WHOIS is a very useful tool that allows anyone to find out who owns what domain name This new service links to many WHOIS servers around the world so you don't have to know the addresses needed to access all the information

http://allwhois.com

Instant help on the desktop

NB—GuruNet com has launched the first public beta version of its free new instant information service The user points to any term in any Windows application and GuruNet analyzes the term in context and pops open a simple window without linking or leaving the current document You'll have to download a 700 KB file to use the service which currently includes licensed content from American Heritage Dictionary Roget's Thesaurus and other dictionaries from Houghton Mifflin the Columbia Reference Encyclopedia from Columbia University Press sports data from STATS, and news stocks and company profile information from NewsAlert

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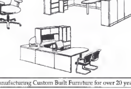

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Psion netBook for mobile networking

Hot on the heels of its recently released Series 5mx handheld, Psion has announced a second device based on the EPOC operating system. The netBook should be available around the end of October.

By Jim Omura

Although the Psion netBook is smaller than many of the Windows CE "Jupiter" products it will likely compete with, it makes no pretense of pocketability. The netBook has a 190 MHz Intel StrongARM SA 1100 processor, a 640x480 color backlit STN LCD screen with stylus input, and a standard layout keyboard.

Evident from its name, Psion is targeting this device at the growing market of remote network computing. This enterprise market includes insurance, banking, healthcare and utility corporations.

Key features for users are its portability, instant on, lack of hard or floppy drives, hardware reliability, and the reliable and advanced EPOC software, which was jointly developed by Symbian and Psion.

Psion's experience in industrial and enterprise computing shows in its unique use of unpackaged software. The applications are not bundled and installed but are loaded according to the user's needs. Programming environments include C++ to native code, Symbian's OPL programming language and Java. The Java support is noteworthy, consisting of an official Sun Java runtime environment with JVM and class libraries. The Enterprise Java 1.1.4 implementation runs Enterprise Java 1.1 applications.

Specifications compared

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Screen	7.7 in.	8.2 in.
Resolution	640x480	640x480
Color:	yes	yes
Keyboard:	64 keys	75 keys

Also noteworthy is the physical package, which features a hinge-forward design that makes the unit more stable when the lid is raised. This is a particularly important feature for pen-based portable computing devices. An optional "flatbed" docking station allows for quick connection to power and serial ports at base locations.

Psion devices are known for their long real world battery life. Psion claims the netBook, which is powered by a rechargeable lithium-ion battery pack, will typically run for up to 10 hours and needs only 2.5 hours for a full recharge.

Although the netBook is currently aimed at big business users, Psion may release a consumer version if there is sufficient interest. The netBook has an estimated price of $1,500. ☐

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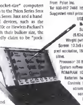
Psion 5mx: handheld without peer

By Jim Omura

The closest "pocket-size" computers with keyboards to the Psion Series 5mx are Psion's own Series 3mx and a handful of Windows CE devices, such as the Compaq C Series 2010c or Hewlett-Packard's Jornada 820. But with their bulkier size, the CE devices can hardly claim to be "pocketable," and the Series 3mx doesn't have the power of the Series 5mx the advantage of Compact Flash cards or the EPOC32 technology that is a growing force in the smartphone and wireless handheld world. The handheld market may be heating up again, but for now, the Series 5mx occupies a unique niche.



We tested the British version of the Psion Series 5mx which differs slightly from the North American version. There are some differences between the keyboards but the ROM image is substantially the same in both versions, with the exception of the spell checking database.

A variety of comparisons were made between this unit and:

- a Compaq C-Series 2010c with a 75 MHz MIPS R3900 CPU running Windows CE 2.0 with Service Pack 1,
- an NEC MP-400 with a 33 MHz NEC MIPS Vr-4101 CPU, with an OS upgrade to Windows CE 2.0 with Service Pack 1,
- a Palm IIIx running PalmOS 3.1.1,
- and the original Psion Series 5

Small changes make big differences

The Series 5mx has been refined throughout. The many small changes eliminate the most commonly noted irritations of the original Series 5. The new silver paint finish is more functional than the original grey rubber surface which had wear problems. The dark bare plastic surfaces and accents, which are carried through to the keyboard in the new design, are pure styling.

System integration seems to be more complete on this unit. When I first tested the Series 5, I found double tapping on an ".htm" file would not launch the browser. On the Series 5mx tapping on an ".htm" or ".html" file brings up the browser and displays the file. JPEG images were similarly displayed by tapping on ".jpg" files. I can't say how many file types are actually supported, but it's encouraging to see progress. Psion claims the screen contrast has improved over the original Series 5, but it is still not as bright as a state-of-the-art Palm IIIx screen. While usable, it's disappointing.

In superficial tests of the sound capabilities, I found the quality seems to have

➤

Psion Series 5mx
From Psion Inc.
Tel 800-997 7466 http://www.psion.com/
Suggested retail price: $805 (converted from US$549)

Basic specifications
Size 17x9x2.3 cm (6.63x3.51x0.9 in.)
Weight (with batteries) 350g (12.25 oz.)
Screen 13.3x5 cm (5.25x2 in.) LCD 640x240 pixel resolution, 16-grey levels, backlit touch sensitive.
Processor: 36.864 MHz ARM 710T
System software: EPOC Version 1.05(250)
ROM/RAM 10 MB/16 MB
Batteries two AA, or one CR 2032
Controls 53 keys three buttons 14 silk screen symbols stylus and touch screen

Pros: State-of-the-art pocket computer with keyboard and touch screen. Good expansion capability and third-party support. Fast, good sound system and long battery life.

Cons: Large compared to Palm devices. Monochrome. Awkward handling.

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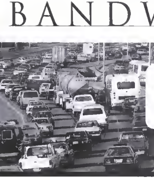

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improved. Compared to a Compaq C-Series 2010c, the Series 5mx sound is crisper and has less apparent noise.

A lot of attention has been paid to this unit's connectivity and integration with desktop computers. According to the documentation, Message Suite 2.3 will synchronize with Microsoft Exchange, Outlook 97/98, and Lotus cc Mail.

Infrared beaming

Using the Series 5mx's infrared feature, I transferred files to and from a Palm IIIx, an NEC MP-400, and a Compaq C Series 2010c. The Series 5mx supports vCard, vCalendar, IrObex standards. So while transfers of simple text files to and from the Palm IIIx all failed, I succeeded in beaming individual Contact items in both directions. I then tried beaming large bulk groups of Contacts from the Palm IIIx, and eventually moved more than 600 items in a single beam. However, larger groups of items took a long time for the Palm IIIx to convert to a beamable form, and it seemed to take even longer——approximately 30 minutes—for the Series 5mx to unpackage and file them after they were received.

Personal information managment

Unlike in previous Psion products, the Contacts in the Series 5mx are not compiled in a straightforward, general database application. Such a database is still included but the Contacts database fields are apparently tied to the vCard standard.

Psion's Agenda software covers Calendar, Scheduler and To-do functions. This highly evolved program does not emphasize the normal calendar displays as is common on most other PIM systems. The scheduler software emphasizes use of week-oriented table views and a highly configurable day view.

Looking at the PIM software overall, the two features lacking throughout are item-to-item linking, which allows quick access to related items like addresses for people attending a meeting, and categories, which are quicker to use than multiple files.

General applications

The word processor is a fairly complete application and includes the ability to insert sketches, graphs, spreadsheets and sound clips. Template support for form letters is a new addition, as is an outline view mode. The latter was disappointing because it did not include any editing capability. A single level of bulleted paragraphs is supported independent of the outline view capability.

The Series 5mx has a unique calculator that is a combination of an algebraic scientific calculator with parentheses and a virtual paper-tape desk calculator. This feature appears to be substantially rewritten from original Series 3 calculator.

The only new capability I noticed in the spreadsheet application was a sort function. Since it is already a program as powerful as early Lotus 1-2-3, it's hard to complain, but multi-sheet books with cross-sheet references would add significantly to its usefulness, particularly if combined with suitable conversions from desktop spreadsheets.

Web browser

In my last look at handheld HTML/Web browsers ("You can take it with you," *TCP*, July 1998), I wrote that it was too soon to put them into ROM. Since I still believe this is true, I'm glad to say Psion has not made this mistake.

The most noticeable improvement is the support for frames, cookies, Java and "Web

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authentication." However, there are a handful of other enhancements to HTML rendering.

The Series 5mx browser still has some problems. The most prominent are mishandling "CR" end-of-line characters in "pre" sections, and a bug from the 1.0 version which sometimes re-creates old folders. Also, although it's great to have Java, I believe it would have been better to put the effort into 128-bit encryption and Javascript.

Overall, the new browser is still one of the best HTML browsers on the market. It's equal to, but different than, Microsoft's Pocket Internet Explorer.

Shortcomings

There have been reports of problems formatting and writing to some Flash memory cards. Psion's position is that the situation is probably being caused by deviation from current standards by the makers of the cards. Hopefully Psion will either come out with a list of devices that are known to work and are recommended, or a list of devices that are known not to work.

Conclusions

The Psion Series 5 handheld computer was the first major product in the market based on Symbian's EPOC32 operating system and was widely praised. When I first tried one, I was very impressed with it, but there were drawbacks I felt needed to be addressed. The Series 5mx has successfully corrected most shortcomings of the earlier Series 5. It is a powerful alternative to the current freight loads of keyboard-less handhelds. ❑

Psion 5mx speed tests

Display response test

	Psion Series 5mx	Psion Series 5	Compaq C-Series 2010C	NEC MP-400
HTML page render time (sec.)	44.8	77.0	15.8	42.6
JPEG render time (sec.)	381.2	NA	9.2	15.5

Notes:

The Psion showed a "complete" report at the end of rendering components within a page, making it difficult to tell when the whole page is completely rendered. The display window was manipulated so that a "complete" was only displayed once after all rendering had been finished. Even so, it's debatable which number is more representative of real-world performance. The screen render time to the first "completed" signal was 13.0 sec, making it effectively as fast as the Compaq C Series 2010c.

While testing the browser on random pages it became apparent that JPEG rendering was disproportionately long. Psion is aware of the problem and a solution should be coming shortly.

Contact find

	Psion Series 5mx	Palm IIIx
File size (KB)	311	124
4 char 1 found (sec.)	3.4	3.1
4 char 8 found (sec.)	3.8	3.7
4 char 16 found (sec.)	4.2	3.8

Notes:

The comparison is with the Palm IIIx running PalmOS 3.1.1 software and based on a 760-record file. Times are for global searches. The Palm had to be run twice to allow the "16 hits" test because it is designed to stop after eight hits to allow the user to see what has been found. Roughly 97 percent of the record information was identical, beamed directly from the Palm IIIx to the Series 5mx, and then compressed. The larger file size of the Series 5mx is due to the difference in the [illegible]

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Affordable Visor adds modules

Handspring has introduced the Visor, a new family of expandable handheld computers based on the industry-leading 3Com Palm Computing platform (which was developed by Handspring's founders) The Visor boasts a feature not present on the Palm handhelds an expansion slot, the Springboard which allows people to add modules including MP3 audio players, digital cameras, pagers and wireless modems, global positioning systems, voice recorders, smart card readers and games The other thing that sets the Visor apart is pricing, with models starting at US$149

Since the Visor products are based on the Palm Computing platform, they can run the programs and access data used on all Palm devices The Visor products are the first handheld computing products to directly support USB connectivity, and can synchronize with desktop computers running Windows 98 and Macintosh operating systems They come with the standard Palm applications as well as a number of enhanced applications

Visor Deluxe in blue

There are three different models available the Visor, Visor Solo and Visor Deluxe The Visor comes with 2 MB of RAM and sells for US$179 The Visor Solo ships without a synchronization cradle and sells for US$149 The Visor Deluxe features 8 MB of RAM, a leather case comes in a choice of five different colors—graphite green orange blue and ice—and sells for US$249 All of these products are available directly on the Web and will be available in stores early in 2000.

Peanutpress plans books modules

On the heels of the Visor launch, Peanutpress announced plans to make its library of electronic books available for Visor users

It seems natural that the electronic publisher which has had success tapping into the four million strong Palm user base would extend its products to those with devices running the PalmOS

The Visor's Springboard module slot

Peanutpress says it is going a step further however with plans to publish books on Springboard modules

"Within the next few months, we plan to offer Visor users up to 10 books on one Springboard module " said Jeff Strobel Peanutpress president and co-founder

Ed Colligan, vice-president of development and marketing for Handspring, Inc said "By publishing contemporary novels in the form of Springboard modules Peanutpress is delivering a great benefit to our customers and demonstrating early on the flexibility of our Springboard platform."

Neither Handspring nor Peanutpress provided details on pricing or how the modules will be distributed.

Until Springboard books debut, Visor users can purchase and download books through the Peanutpress Web site Peanutpress says its books are competitive with their paper counterparts and range in price from US$2 to US$14.99

—Keith Schengili-Roberts and Megan Johnston

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3Com to spin off Palm Computing

Network technology giant 3Com has announced a major restructuring with plans to make its handheld Palm Computing division an independent company

According to 3Com chairman and chief executive Eric Benhamou, "Creating the industry's first independent publicly traded handheld computing company is a significant milestone, reflecting both the current success and the future potential of our Palm business Further, the formation of two distinct companies, each with greater flexibility, agility and focus, is expected to create more value for our shareholders, customers and employees."

Since acquiring the Palm technology in 1997, 3Com has sold more than five million of the tiny handheld computers. In addition to 3Com's revenues from Palm computer sales, thousands of third-party developers, solution providers, resellers and business partners have generated further billions of dollars in Palm-related business Benhamou terms this phenomenon of a lucrative Palm Pilot market as the "Palm Economy"

3Com intends to be an ongoing licensee of Palm technology, even after the split.

Considering the positive brand recognition of Palm, and the future prospects for enormous growth in mobile connected computing the initial public offering (IPO) of stock in Palm Computing is likely to be very popular and very lucrative for 3Com

3Com s overall performance has been less stellar than Palm Computing's according to recent quarterly report 3Com still carries the financial legacy of its acquisition of modem manufacturer USRobotics, which was done just before the modem market became a low-margin sector facing obsolescence due to high bandwidth alternatives and wireless networking innovation

With a renewed focus on its core networking products the spin off of Palm Computing may provide 3Com with the opportunity to improve its competitiveness and profitability against networking rivals, such as Cisco and Lucent

3Com expects to hold an IPO in January, according to Janice Roberts, senior vice-president of business development at 3Com. More shares will be sold to 3Com shareholders in the four to six months following the IPO

Benhamou says a chairman and chief executive officer for Palm Computing will named in the next few months. James Barksdale former chief executive of Netscape Communications and Gordon Campbell, president and chairman of Techfarm, will become members of Palm's board of directors.

Benhamou also briefly endorsed the release of a Palm rival product, the Visor, by two Palm developers, who left 3Com to create their own company, Handspring Inc.

"We welcome Handspring" into this market Benhamou said, pointing out that the startup is licensing Palm technology from 3Com

—Jeff Evans with files from Newsbytes

Microsoft extends instant messaging to phones, WebTV

REDMOND, Wash (NB)—Microsoft Corp s latest goal for its instant messaging vice is ubiquity. The software giant said it plans to make its MSN Messenger S available on the MSN mobile service and introduce versions for use on its Win CE operating system and WebTV Network

The MSN mobile service provides data to cellular phones The company has also made available a Macintosh version of its instant messaging software which can be downloaded from its MSN Messenger Service Web site Microsoft did not say when the other versions will be available

Microsoft has been at war with America Online over instant messaging rights since late July when both companies inked deals with other Internet service providers (ISPs) to exclusively offer their instant messaging services to users With the latest announcement from Microsoft it appears that the two companies will also fight for instant messaging domination in the wireless space

AOL officials said earlier this year that it would work with 3Com to devel AOL Instant Messenger and "buddy list" features for the Palm line of handh organizers

AOL is still clearly the leader in the instant messaging market with an estim ed 80 million subscribers Since releasing its own instant messaging softw Microsoft has signed up about 2 5 million users

The company wants to make its messaging software easily available across devices said Yusef Mehdi director of marketing for Microsoft's content and commerce group "We want to make it easy for consumers to communicate the way they want," Mehdi said in a statement

Microsoft also announced plans to integrate MSN Messenger Service into a "te vision platform adaptation kit " which would let cable satellite and phone co nies make the service available as part of their Internet television offerings ☐

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Nortel debuts Mobile Desktop

GENEVA, Switzerland (NB) — Nortel Networks has developed a mobile phone software environment that allows carriers to extend PC network calendaring and messaging functionality to digital handsets

Known as Mobile Desktop, the PC server-based software uses the network's existing Short Message Service Center (SMSC) and Web site to provide calendar updates and email notification from Microsoft Outlook and Lotus Notes to any digital mobile handset

John Vice, vice president of Nortel Networks' wireless division, said the technology gives cellular networks a low-cost method of entry into the networking world.

Vice says the technology offers carriers an opportunity for generating new revenues and higher minutes of use, simply because it delivers great value to subscribers Since no additional hardware is required, it enhances the value of service providers existing infrastructure investments

Using Mobile Desktop, subscribers can receive on their cellular handsets a daily schedule, meeting reminders, requests to schedule or change meetings, and notification of new email messages received, all filtered according to their requirements.

Using the technology, email notifications, for example can be limited to urgent messages or to messages from the boss or other, very important individuals

Vice said Mobile Desktop can combine as many as three SMS messages—typically limited to around 150 characters—into a single message of up to 450 characters

This, he said, is particularly useful for email notifications, where a longer excerpt including the subject and the first few paragraphs can often provide enough information to respond to a request without having to access the entire message

The software also identifies and includes a telephone number with each message when available, allowing immediate call back to the originator of an email message or meeting request with a touch of the send button on the handset

Nortel said that, because Mobile Desktop is Web server based, messages can be encrypted for greater security The software can also handle message routing between multiple SMSCs ☐

Nortel Networks, http://www.nortelnetworks.com

Archaeology on the internet

[illegible] much more comprehensive guide to sites [illegible] archaeology on the Internet than this one The index includes links to resources associated with specific periods, such as Medieval Anglo-Saxon and the Bronze Age those associated with races of people, such as the Celts or Vikings and worldwide links organized by nation

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ATTENTION USER GROUPS: Send in your listing (maximum 120 characters) for the December issue by Monday October 25 1999. Submissions run for one month only in the local section. *The Computer Paper* reserves the right not to print submissions which are deemed inexcusable

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HAMILTON PC USER GROUP meets last Monday of each month @Hamilton Spectator 7:00 PM www.hwcn.org/link/hpcug.

H.U.G. (Hamilton PC Users Group) IBM and PC clone users meet on the last Monday of each month in the auditorium of the Hamilton Spectator 44 Frid Street at 7:00pm. For further info contact Jim Ronna (905) 639-0771 or E-mail at jim.ronna@freenet.hamilton.on.ca.

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SOCIETY OF INTERNET PROFESSIONALS (SIP) http://www.netpro.org Networking party at Vineyards Lounge, ground floor Metro Hall, King & John Sts. 6-9pm. RSVP would be appreciated, please send an e-mail message with your name and company to founder@netpro.org

TAF (Toronto Atari Federation) meets 3rd Wednesday of each month between September and June in the Rose Room of the North York City Centre underneath the Central Library at the North York subway stop. The meetings are held from 6:30 pm to 10:30 pm. TAF's mail address is suite 1402, 45 Grenoble Drive Don Mills, Toronto Ontario, M3C 1C4 and the eMail address is dave.lee@taf.ftn.org TAF's BBS (TAF Online) can be reached at (416) 421 8999 (8-N-1 28800) and TAF's phone numbers are (416) 533-0504 or 706-4743. TAF's Web Page can be found at http://www.interlog.com/~ashne/taf April's meeting will be looking at emulation, MAC's, PC's and Atari's!

THE MISSISSAUGA COMPUTER CLUB meets the first Wednesday of every month at the Burnhamthorpe Community Center 1500 Gulleden Dr. 1 block east of Dixie and one block south of Burnhamthorpe at 7:30pm for more information see our web page at http://welcome.to/tmcc, or email at tmcc@direct.ca, you may also see the free BBS at (905)840-0586.

THE TORONTO ACT! USER GROUP For more information e-mail: vaclav@passport.ca Call: (416) 781 1953 or Fax: (416) 781 1530

THE TORONTO POWERBUILDER USER GROUP in conjunction with Sybase Inc., is hosting a PowerBuilder Training Conference on Monday November 15 in Toronto. Please visit their web site at www.interlog.com/~tpbug for more information.

IT IS TOASTMASTERS meets every Tuesday 6:15pm, Manulife Building Syd Jackson Theater 200 Bloor St East, Toronto. The IT IS Toastmasters is a non-profit club for technology industry workers who want to improve their speaking, listening, communication and leadership skills. Check the web site for location changes and more information. www.amegory.com/toastmasters.

TORONTO CYBERSPACE LIONS CLUB World's 1st Internet Service Club. Multi-cultural membership, interested in community-service projects. Meetings in person and on IRC. Educational meetings. $75. annual fees. Contact: Roger Roberts, 416-515 9324 email roger@cyberlions.com visit www.cyberfloor.com.

TORONTO OS/2 USER'S GROUP meets 2nd Thursday of each month, 7:10pm, IBM Canada Building, 3600 Steeles Ave E in the auditorium. Free. Call (416) 299-3410 E-mail: tos2@[illegible].org www.http://www.[illegible].org/~tos2

OTTAWA SAS USERS GROUP (OSUG), Contact Winifred Jakob @ 613-231-8503 ext 238 Infoline 613-231-8603, ext 8787 fax: 613-231-8528 Attention: OSUG, email:osug@can.sas.com Meetings: call Infoline for announcements.

WOODSTOCK COMPUTER USERS CLUB. We meet the 1st Thursday of each month at Working World Training Centre in Woodstock (located in the Sandford Mall). There are maps to our location on our web site at www.wcuc.org (currently under construction). Next Meeting Tuesday October 5, 1999 Topic GIZMOS and Video Fun presented by Kevin Procter

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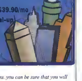

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1711 message(s)

You have mail, darnit!

Email can be a delight, a blight, a vital tool, a curse, or a combination of all of the above. How do we make time for having a life, without inviting email guilt?

By Jeff Evans

Get Msg

I have a friend, who has lived outside of Canada for several years with whom I correspond occasionally via email. Sometimes when a response to my last note is a long time in coming, it contains an apologetic comment from the writer about having taken so long to reply. I feel the same way when I see dozens of unread, unanswered messages in my inbox. These are examples of a rapidly spreading modern epidemic: email guilt.

Reply All

Yea, verily, thou hast mail!

In the olden days sending and receiving mail ("snail mail" as we now call it) was a laborious, expensive, slow and chancy business, assuming, of course, that one even knew how to read or write. Paper was rare and costly, quill pens had to be sharpened, mail coaches were robbed, mail boats sank and the mail was eaten by fish. You really had to want to send a letter to justify going to the trouble.

If and when a letter actually arrived, it was a major event. Governments ranging from the Roman Empire to Imperial China and Genghis Khan's Mongols recognized the crucial importance of establishing an efficient mail service to maintain the rule of the state. Interfering with the mail was often a capital punishment offence. Much of the New Testament portion of *The Bible* was compiled from letters written to congregations of the early Christian church by the apostles. Mail mattered.

The Internet has turned mail from a special event into an often valueless or even detested commodity

At the end of the 20th century, the Internet has turned mail from a special event into an often valueless or even detested commodity. The technology that makes creating mail almost effortless perversely makes dealing with the resulting deluge of communication almost impossible. In general, the more mail one receives, the less one appreciates receiving it. Eventually, the cost in lost productivity and free time becomes insupportable.

Ghosts in the machine

Hundreds of millions of people around the world now have an email address. Many people have many addresses at once (one for home, one for school, one for work). As we move, change jobs and schools and Internet service providers we often leave behind email ghost towns, online landscapes with cities of old email addresses that continue to attract mail even though no one will ever live there again.

When I left the employ of *The Computer Paper* in April to pursue a four month contract with a software publisher my access to the company email system was cut off the day I left. I simply assumed that was the end of the story. Not so.

When I returned to work for the company in early September, I talked to the IT (information technology) department on a Friday afternoon about re-establishing my jeff@tcp.ca email account. I was greeted with a stern comment. "Oh, you! Are you going to do something about the 1,700 messages in your mailbox?" The question was asked in accusing tones. ONE THOUSAND SEVEN HUNDRED UNREAD MESSAGES! What on Earth was our IT guy talking about? I'd only been back for a day!

Composer

It developed that although my access to my company email had been terminated, the mailbox itself had not been closed (a minor software bug). Messages had continued to pile up, day after day, month after month. Messages from public relations agencies for major technology companies, from journalism colleagues around the world, from readers, friends and family members.

My mind reeled as I imagined the hundreds of writers' emotional or professional responses to my absolute unwillingness to answer their letters. Impatience. Disappointment. Annoyance. And eventually indifference. How many people who I hadn't directly contacted with my changed email address now hated me, or had simply given up on me?

Forward

The world wide waste of time, part deux

After thinking about this over the weekend, I considered asking for the huge blob of unread mail to be directed to my re-established account. I was informed by the IT department that it had meantime been deleted from the email server once the mixup was discovered, but was probably still available on a backup.

Inbox

I paused, and did some quick calculations. 1,700 messages, at 30 seconds each to open, look at and decide what to do with, worked out to more than 14 hours of work. With lunch and time to go to the washroom, it would take two full days to get caught up. I could think of lots of better ways to spend two whole days. I shrugged and thought, as New Yorkers are fond of saying, "Fuggedaboutit."

New

Between a rock and a hard place

Common courtesy demands that one respond promptly and politely to phone calls and letters. It's the right thing, the professional thing, to do. However, email multiplies like some hyperactive weed on our computers, demanding a response but also demanding an often ridiculous portion of our time.

Some email is plainly unworthy—automated spam from companies trying to hook us with get-rich-quick schemes or smut sites that slip through our ISP's filters. Some is plainly worth our immediate attention: responses to our own messages, mail from people we know or care about. A huge amount of mail, however, is neither vital nor worthless. It inhabits a gray area of value.

Delete

Email guilt, be gone!

I propose that we look to the Golden Rule for our response to the email burden. "Do unto others what you would have them do unto you." If you send an email, recognize that the technology that enables your mail also puts a burden on the recipient that may compel them to fail to respond. Forgive them. And, if you receive more email than you can deal with, forgive yourself for not always answering. Life is too short to spend it answering email.

As for me, I rest uneasily with the knowledge that in a disc box somewhere in the office is a CD-ROM with four months worth of the world trying to talk to me. Maybe I should ask for it, just to take a peek at the message headers to make sure I didn't miss anything really, really important.

Arrrgh! Fuggedaboutit! ❑

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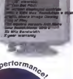

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